

ARCHITECTURAL RECORD



DECEMBER 1955

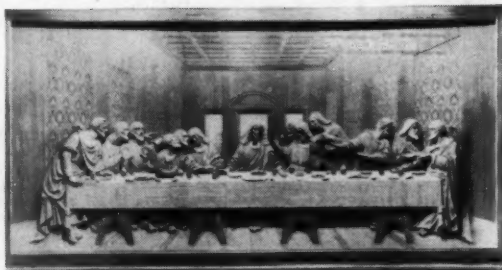
BUILDING TYPES STUDY

RELIGIOUS
BUILDINGS

229

75 Years of Church Specialization . . .

Practically every important cathedral built in the last 75 years has employed the woodworking skill of Irving & Casson — A. H. Davenport Co. A typical example is Da Vinci's "Last Supper" (below) installed in the Upper Room Chapel, Nashville, Tenn. Measuring 18½ feet long, 8½ feet high, 12 inches deep, it is thought to be the world's largest wood carving.



Nine carvers, working in the Cambridge plant, spent almost a year in the completion of this reproduction of Da Vinci's work.



UNITED NATIONS BUILDING—Delegates' desks and chairs in General Assembly room at the United Nations are further examples of the craftsmanship of this century-old woodworking firm.

"Without it our buildings would not be standing today"

"At our factories in Cambridge, Mass., a flash fire occurred last December in the paint department", relates Mr. C. A. Thurston, Treasurer, Irving & Casson — A. H. Davenport Co., furniture manufacturers and custom builders of woodworking specialties. "Had it not been for our Grinnell Sprinklers going into action immediately, I am honestly afraid to think of the consequences."

"Most of our buildings are well over 125 years old. To replace them would cost perhaps a million and a quarter dollars. That is why we installed Grinnell Sprinklers as far back as 1900.

"Over the years we have had our share of fires. But on every occasion, our Grinnell Sprinkler System has been on the job and damage has been held to a few dollars. I am sure that without it our buildings would not be standing today."

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Buffalo Dec. 1-2 Cleveland Dec. 6
Cincinnati Dec. 12-13 Louisville Dec. 15
Charleston, W. Va. Dec. 19

- Burroughs Corporation has provided for *future* as well as *present* efficiency in the use of space in its new Research Center in Paoli, Pa. The walls which form the interiors are Mills Walls—as attractive and distinctive as they are efficient. When space requirements change, these walls can be rearranged to fit new layouts in a matter of hours without interrupting normal routine. Fully insulated and soundproofed, Mills Walls are available in any color desired, in baked-on enamel finishes which require no maintenance except occasional washing.

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5. Slab bracket, with either glass or metal container

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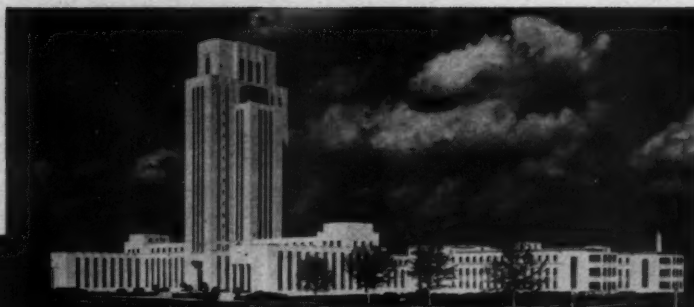
6. Push-in wall mounted type
- Push-down lavatory mounted type



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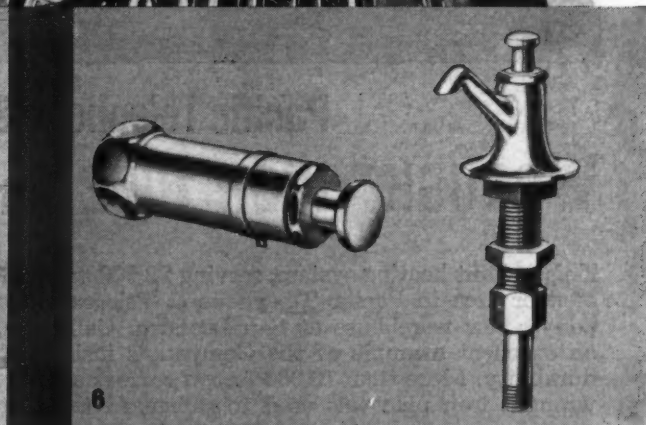
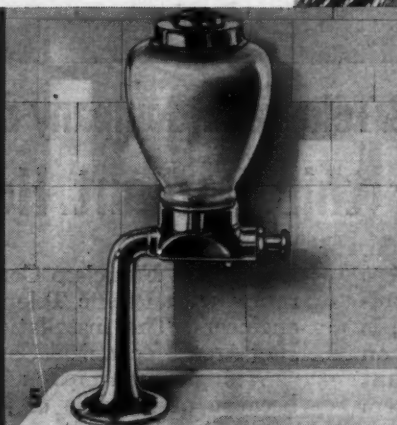
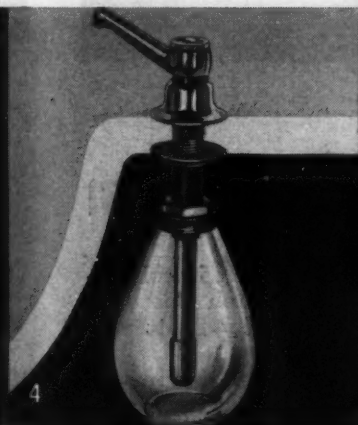
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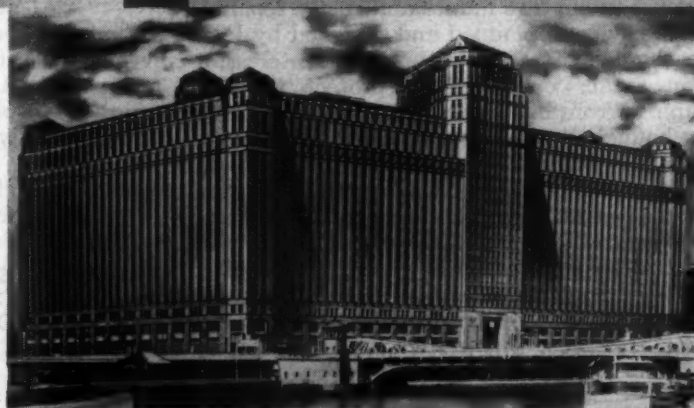


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TO KEEP CORROSION FROM "CALLING COLLECT"

Pacific Telephone & Telegraph Company used WROUGHT IRON PIPE for this Radiant Heating System

This radiant heating system, serving 22,500 square feet of floor area in Pacific Telephone & Telegraph Company's new warehouse at San Leandro, California, is an excellent example of the Company's insistence on durability. More than 16,300 feet of corrosion-resistant wrought iron pipe was used to safeguard the system against premature failure and costly repair.

The system, planned and designed by PT&T's Engineering Department, features some interesting construction details employed to protect the floor against damage from heavy fork-lift trucks and impact caused by bouncing reels of cable. After the 10-inch structural slab was poured, wrought iron pipe coils were laid in place. Over the pipe coils, a wire mesh was stretched to strengthen the concrete "topping" slab, and contribute to more even heat distribution. Then the pipe and mesh were covered with 3 inches of concrete. A metallic floor hardener was applied to the surface.

Architects for the project were Thomsen & Wilson, San Francisco. The system was designed by Harry S.

Haley, San Francisco Consulting Engineer, in collaboration with Pacific Telephone & Telegraph Company engineers. The installation was made by Scott Co., Bay Area Mechanical Contractors.

Wrought iron pipe is ideally suited for this service because of its ease of installation, dependability in service. It takes short radius bends, without spring-back. It produces sound welds, free from pin-hole leaks. Its uniform structure assures sharp, full-depth threads. And because of its mechanical strength, wrought iron pipe withstands damage during installation. In service, wrought iron stays on the job longer, costs less per year.

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ARCHITECTURAL RECORD

December 1955 Vol. 118 No. 6

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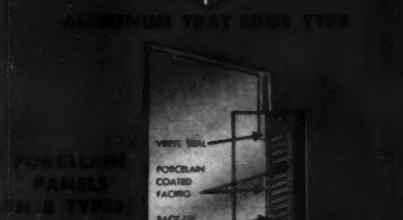
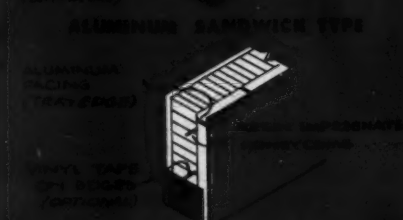
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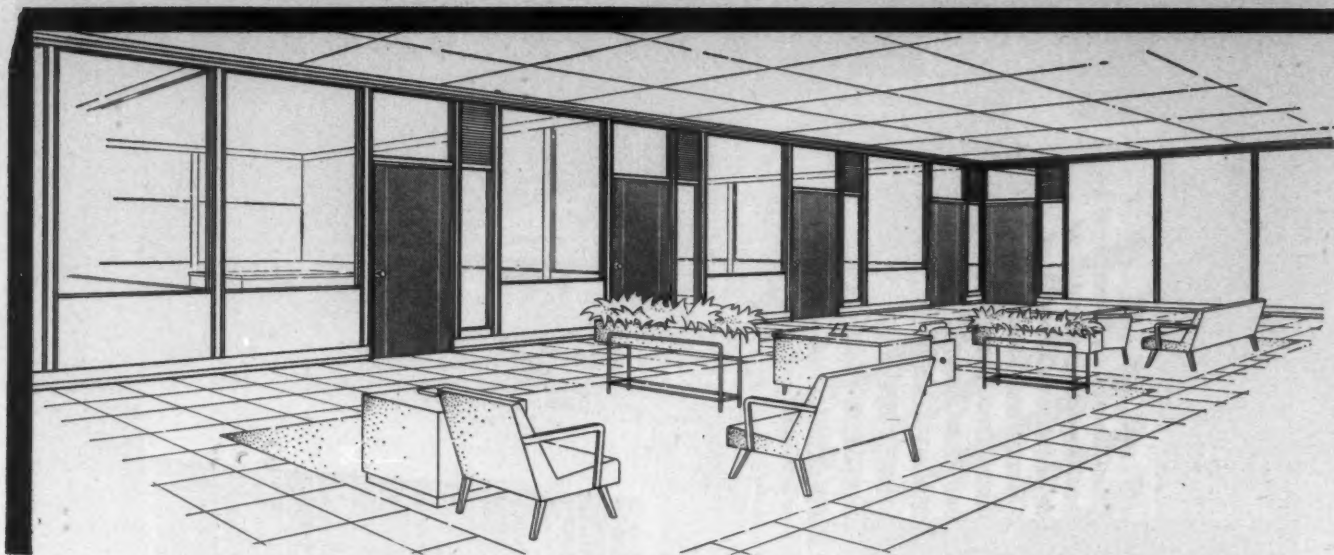
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See the HAUSERMAN display in the Producers' Council Caravan scheduled to visit these cities in December:
**Cleveland, 5-10 Cincinnati, 11-14
Louisville, 15-17**



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THE RECORD REPORTS

P E R S P E C T I V E S

THE LONG, LONG TRAIL: The U. S. Supreme Court has refused to review — in effect upholding — a Wisconsin State Supreme Court decision that held the village of Fox Point, Wis., was within its rights in refusing a construction permit for a Colonial house in a neighborhood of "ranch houses." The permit was refused under a local statute which forbids construction of a house whose "exterior architecture appeal and functional plan" are so "at variance" with nearby structures as to "cause a substantial depreciation in property values in the neighborhood."

PROJECT VANGUARD: It ought to be noted that the first contract for a space satellite has been awarded by the Defense Department, a preliminary contract of \$2,035,033 with the Glenn L. Martin Company of Baltimore. This is the satellite the U. S. government announced this summer it planned to launch as part of its contribution to research of the upper atmosphere in connection with the International Geophysical Year, July 1957 to December 1958. It will be "about the size of a basketball," U. S. scientists say, in a figure of speech which ought to satisfy everybody that cosmic architecture is getting off to a nice, healthy, unesoteric symbolic start.

THE PEACEFUL ATOM, by now as familiar to convention agendas as the national anthem, was acknowledged at the 54th anniversary convention of the National Electrical Contractors Association in a talk by Lieut. Gen. Leslie R. Groves, wartime head of the Manhattan District atomic bomb project. General Groves, now a vice president of Sperry Rand Corporation, acknowledged that so far "no one really knows whether atomic generating stations will be large, central costly plants or whether there will be numerous smaller plants aimed at serving very restricted territories." But when atomic power does become competitive, "some-

time after the middle of the next decade," General Groves warned, "it will be too late then for individuals and organizations to learn the fundamental principles involved in the construction of these plants" because "we will all be surprised at the suddenness with which it becomes an important factor in our economic life." General Groves believes Great Britain may be the first country to make widespread use of atomic power; in the U. S., he said, atomic power when it comes will be used for expansion rather than for replacement of conventional fuels. . . . The first comprehensive state safety code for protection of workers in the atomic energy field from on-the-job hazards has been adopted by the New York State Board of Standards and Appeals and becomes effective on the fifteenth of this month. The New York code conforms with the A.E.C.'s new safety regulations.

TV TEACHING: The first closed-circuit television link between a college and all public schools in a community is being installed in Pocatello, Idaho. It will enable one teacher in the Idaho State College television studio to instruct more than 300 students in 11 public schools at the same time. This pioneering venture in educational television is made possible by a \$5000 grant to the college contributed jointly by the Jerrold Electronics Corporation of Philadelphia and the Bannock Cable TV, Inc., of Pocatello; the two companies are also installing the educational closed circuit system at no cost to the community. Among the programs planned: presentation of specialized subjects, like art and music, phonetics and speech correction, which are generally taught by teachers traveling from school to school; showing of films and slides on 24-in. TV sets in special classrooms set aside for TV teaching (a single central film library thus becomes practicable); special courses and teaching demonstrations for teacher-in-service training.

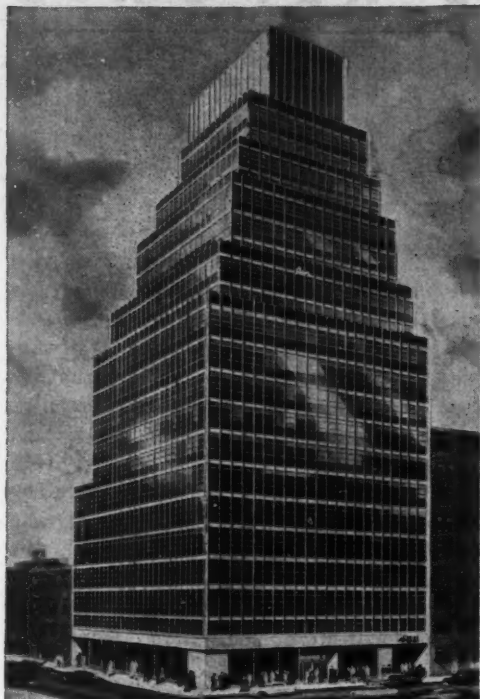
ARCHITECTS ANONYMOUS: *Time's* recent five-page feature, "The New Churches," was replete with handsome four-color photographs of contemporary churches, all scrupulously credited as to photographer, none credited as to architect. Why? . . . *The New York Times* devoted half a page to a story about the State Department's foreign buildings program, captioned a large photograph of the U. S. Embassy at Copenhagen "an outstanding example of modern architecture" but never named an architect. Why? . . . The National Association of Home Builders issued innumerable news releases in connection with the opening of their headquarters, the new National Housing Center in Washington (of which they appear to be quite inordinately proud), but not one of the releases which reached this desk included the names of the architects. Why? . . . In a spirit of dogged inquiry, the RECORD is addressing these questions to the organizations concerned. Meanwhile, acknowledgements herewith to Mario Ciampi, Arthur Rigolo, Bruce Goff, Murphy and Mackey, Percival Goodman, Arthur T. Brown, A. Quincy Jones and Frederick Emmons, Alden Dow, Mackie and Kamrath, Chaix and Johnson (*Time's* church architects); Ralph Rapson and John van der Meulen (the Embassy architects); and Aubinoe, Edwards and Berry (National Housing Center architects).

BACK FROM THE SUBURBS: The Associated Reciprocal Exchanges, preferred-risk fire insurance group, has announced plans to return to Manhattan just five years after shifting its operations to the Westchester County community of Port Chester. Reasons: nearness to business connections, convenience of visiting subscribers, employee preference. A company spokesman reported that of their employees only the married women with families preferred the suburban location.

THE RECORD REPORTS

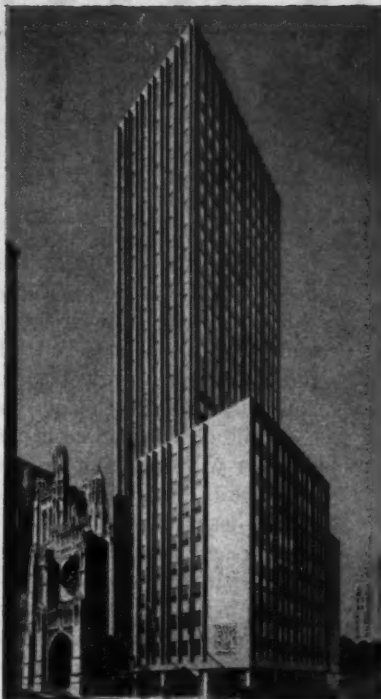
BUILDINGS IN THE NEWS

CURRENT OFFICE PROJECTS



1

1. 400 Park Avenue, New York, 21-story office building: 200,000 sq ft of rentable floor space; estimated cost, \$3 million. Architects: Emery Roth & Sons. Owner-builders: Fisher Brothers. 2. Canada House, at Fifth Avenue and 54th Street,



2

will have New York offices for Canadian consulate, travel agencies, representative Canadian industries. Net rentable area, 175,000 sq ft; estimated cost, \$6 million, to be financed by 30 Canadian business leaders. Architects: Eggers and Higgins



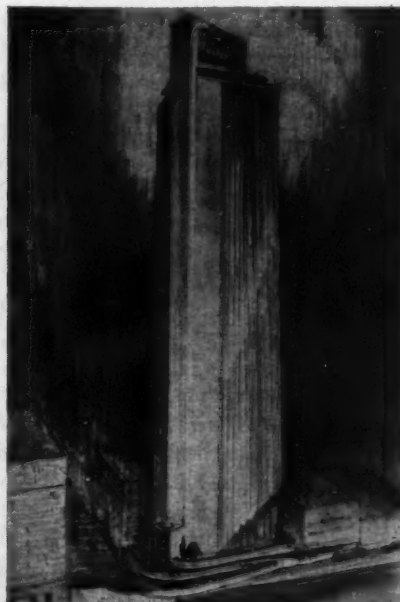
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of New York, associated with Marani and Morris, Toronto. 3. 666 Fifth Avenue, 34-story office building: 1,000,000 sq ft of rentable floor space; estimated cost, \$40 million. Architects: Carson & Lundin. Owner-builders: Tishman Realty

7. Great Plains Life Insurance Company's 20-story Home Office Building, Lubbock, Tex., was completed last year at a cost of \$2.5 million for a total floor area of 156,000 sq ft. Architects and engineers: David S. Castle Company. 8. Under construction in Nashville, Tenn., the 30-story office building for Life and Casualty Insurance Co. of Nashville provides 273,556 sq ft at an estimated cost of \$6 million. Architect: Edwin A. Keeble. 9. Union Center Building, under way in Wichita, Kan., provides 89,938 sq ft of rentable office space on the upper nine floors and a 226x141-ft ground floor containing shops and a walk-up bank as well as building lobby; the Union National Bank of Wichita will occupy the entire lower level. Estimated cost: \$2.5 million. Architects: Overend & Boucher



7



8



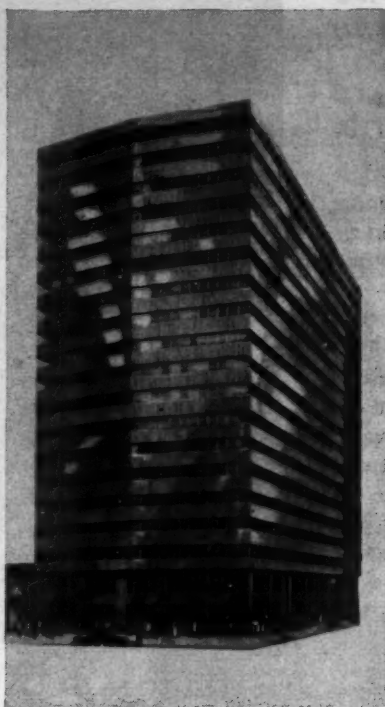
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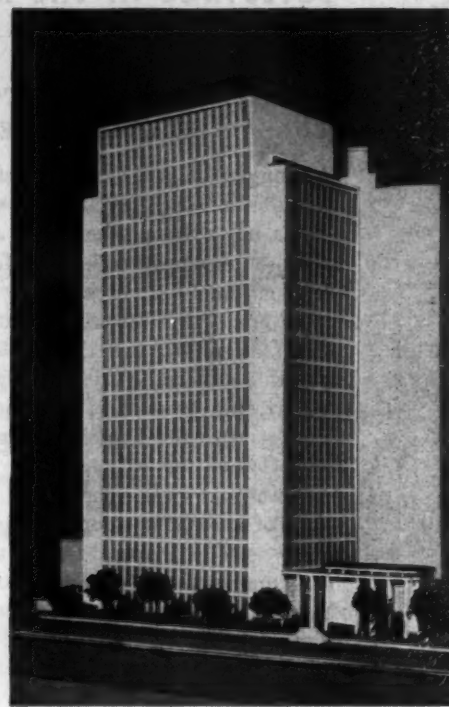
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4. Construction Co. 4. 19-story 711 Third Avenue: 430,000 sq ft of rentable floor space; estimated cost, \$11 million. Architect: William Lescaze. Builder-developer: William Kaufman. 5. 20-story new Pullman Building proposed for present site,



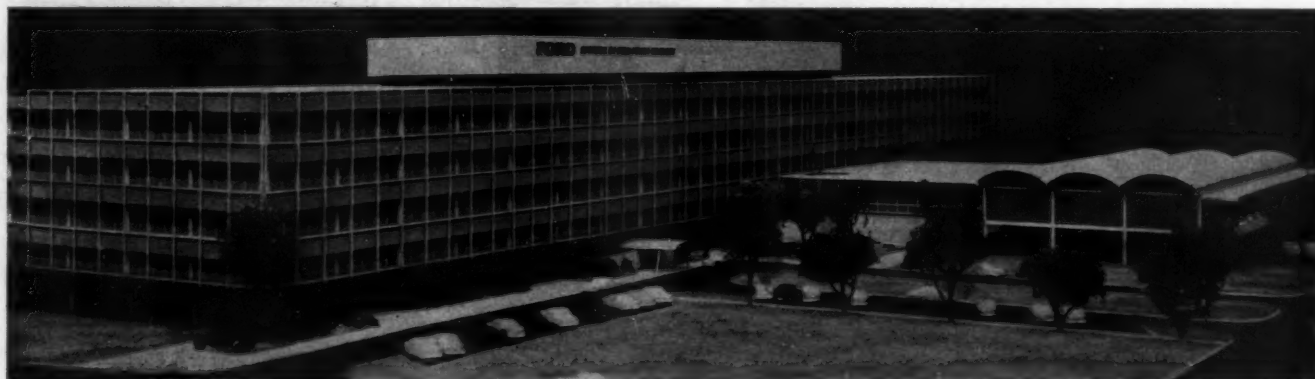
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200 South Michigan Avenue, Chicago: 300,000 sq ft of rentable floor space (Pullman would lease about 35,000 sq ft from the sponsors, a group of New York realtors); estimated cost: \$12.5 million. Architect: William Lescaze. 6. 17-story



6

American Hospital Association Headquarters and Center for Hospital Affairs under way in Chicago: net usable floor space, 178,000 sq ft; estimated cost, \$4,850,000. Architects: Schmidt, Garden and Erickson



10

10. New office building for Ford Division of the Ford Motor Company to be constructed on a 67-acre site in Dearborn, Mich., will have net usable area of 337,000 sq ft of a gross 453,000 sq ft. Estimated cost: \$10 million. Architects: Welton Beckel and Associates, Architects, and Albert Kahn, Associated Architects and Engineers Inc. 11. Woodmen Accident & Life Company Building, just opened in Lincoln, Neb. (across the street from Goodhue's Nebraska State Capitol), has a usable floor area of 58,500 sq ft, cost \$750,000. Associated Architects: Davis and Wilson and Martin Aitken



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THE RECORD REPORTS BUILDINGS IN THE NEWS

(Continued from page 11)

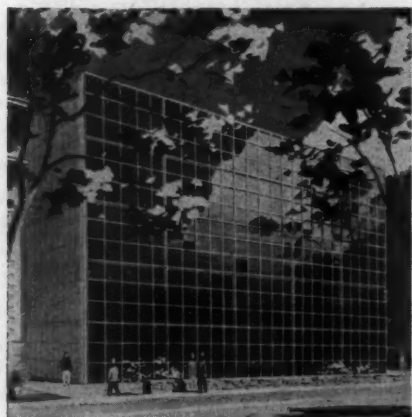
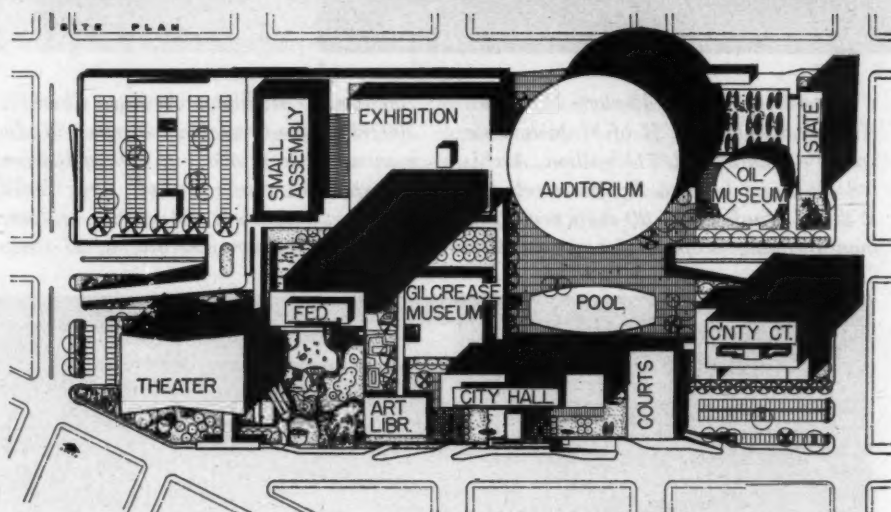
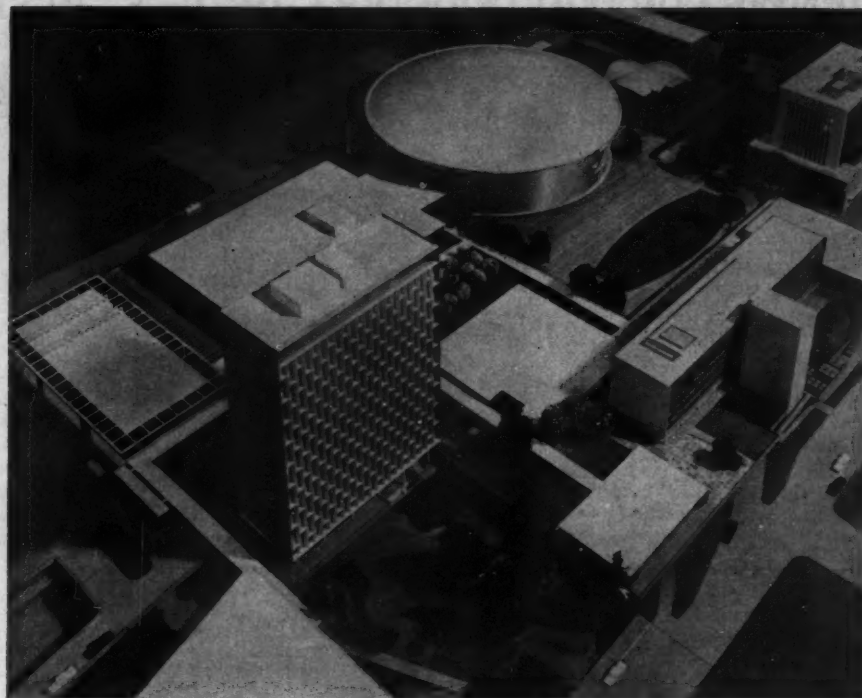
ARCHITECTS UNITE TO AID TULSA'S NEW CIVIC CENTER

Although the city's voters refused it funds in a November 15 bond election, Tulsa has a basic scheme for a future civic center developed in a careful study by a group of local architects.

Seven private architects, organized as the Architectural League of Tulsa, have presented the city with a comprehensive report, the product of their joint endeavor after the Mayor's Civic Center Site Committee accepted their offer of nonprofit services. The report, in the form of a brochure, comprises a thorough analysis of background factors affecting site and environs, facilities to be included, traffic and parking, programming of the buildings, site plan and numerous sketches and model photographs showing the design concept which evolved from the study. The report is handsomely and copiously illustrated.

The present concept (model photo and site plan of plaza or main level shown at right) was strongly influenced by the basic traffic and parking scheme, which separates pedestrian and vehicular traffic and parking by providing two levels for vehicles below the eight-block plaza level.

Members of the Architectural League of Tulsa are: Donald McCormick, chairman; Frederick Vance Kersher; Joseph Koberling; Murray M. McCune; David G. Murray; Leon B. Senter Sr.; and R. E. West.



YALE UNIVERSITY dedicated its new Josiah Willard Gibbs Laboratories (center) last month. Built at a cost of \$2,350,000 to house research projects of Yale's physics, biophysics, zoology and plant science departments, the building represents the merger for economy reasons of earlier plans for separate buildings for physics and biology (for the early scheme for the physics building



by Eero Saarinen, see AR, September 1953). Photo far right shows an adjacent Accelerator Laboratory. Architect: Douglas Orr, in association with Paul Schweikher, chairman of Yale's Department of Architecture. At left above: preliminary scheme by the same architects for proposed Electrical Engineering Laboratory to cost an estimated \$1.5 million, for which funds are now being sought

(More news on page 15)

WHO SAID AIR IS FREE?

Were it not for Radiation and Convection, empty air spaces inside walls, roofs, etc. would be the best insulation. But why pay costly labor and storage bills for handling "free" air entrapped **before** it is used in bulky insulation? Bulky materials also require more freight cars, trailers and trucks. The "free" air is paid for over and over again.

Multiple accordion aluminum envelops large volumes of air and creates layers of air spaces **only** as it is opened when finally stapled in place. This air is **really** free.

With respect to radiant heat flow, the aluminum sheets have 97% reflectivity, and 3% absorptivity and emissivity. Low conduction results from the preponderant air spaces of low density. The layers of multiple aluminum and fiber retard inner and outer convection. The tough aluminum sheets are almost impervious to vapor flow. Infiltration under flat stapled flanges is slight. Condensation formation on or within is minimized by the scientific construction of multiple layers of joist-to-joist, full-depth* accordion aluminum, fiber, and air spaces. *Patent applied for.

MILLION SQ. FT. IN ROOM 12' x 13' x 13'

Because of the low volume of unopened, practically airless multiple aluminum, an ordinary passenger auto will easily hold 20,000 sq. ft. A railroad freight car, a huge interstate trailer, or a number of trucks would be needed to transport an equivalent amount of ordinary insulation.

The AMERICAN SOCIETY OF HEATING & AIR-CONDITIONING ENGINEERS has published a booklet which describes convection, conduction, and radiation heat flow through *ordinary* air spaces, and what happens when an ordinary building space is lined or subdivided by reflective metals, thus creating *reflective* air spaces. Ask us for a copy—it's free.

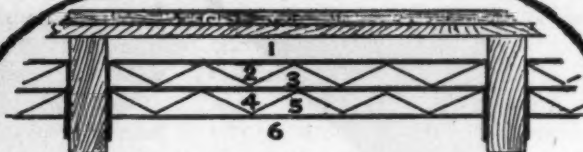
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THIS AIR IS FREE!

Numbers 1 to 6 are
air spaces

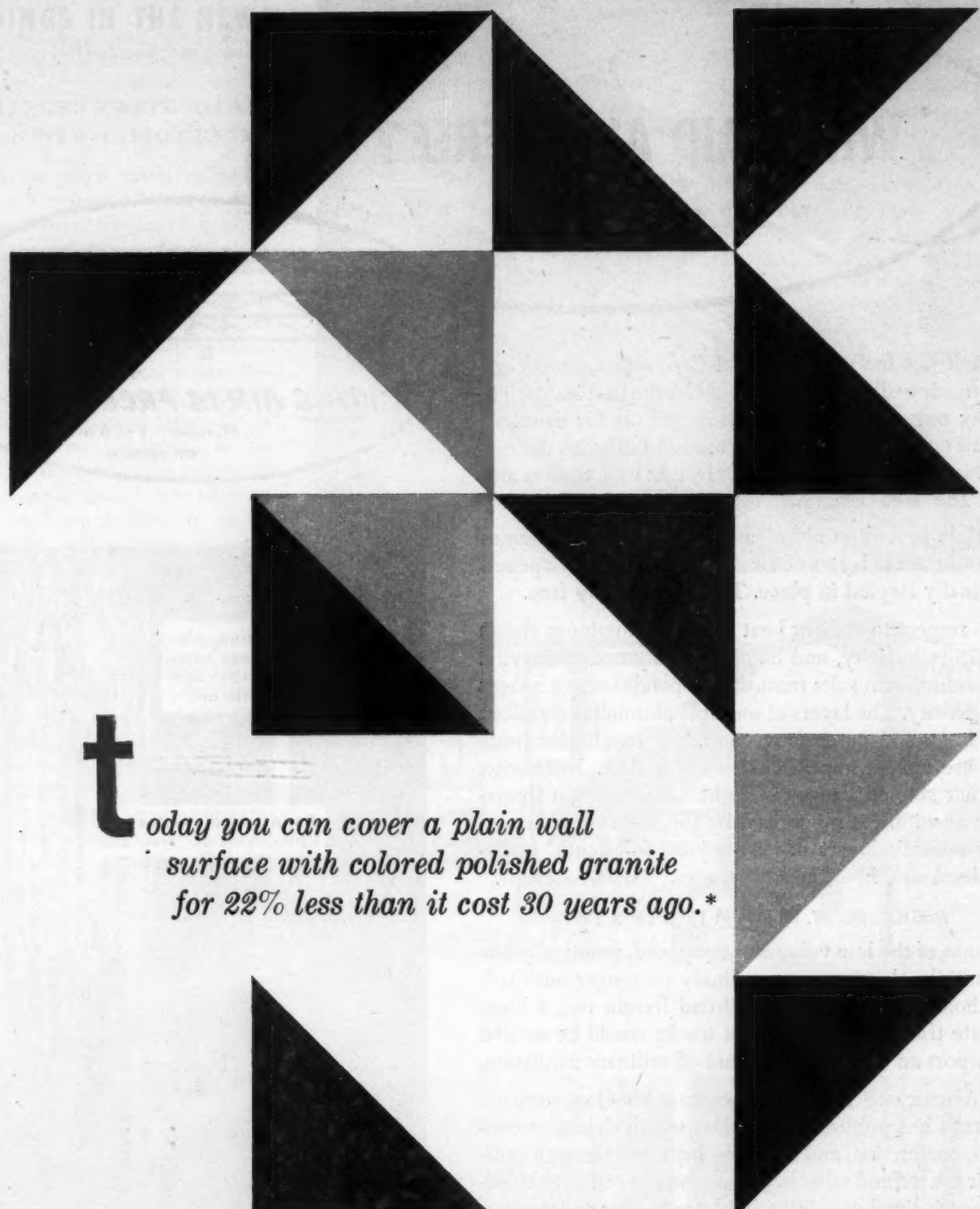


Multiple accordion aluminum as it comes compactly from package contains very little air.

As installed creates multiple layers of "free" air.

COST OF EDGE-TO-EDGE INFRA
Multiple Aluminum Insulation
installed in new construction
between wood joists,
material and labor
Type 6-PS about 10¢ sq. ft.
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THE RECORD REPORTS
BUILDINGS IN THE



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Cost file: File 8-B-3 on cost of 12 granite entrances

Brochures: Granite in Places of Worship; Granite in the Hospital; Granite in the School

The State of Construction

The latest figures from F. W. Dodge Corporation on the monthly total of contracts awarded for future construction in the 37 states east of the Rockies did *not* set a new record for the month, nor improve on the total for the corresponding month last year. For details on this man-bites-dog story, see page 326. (It should be added, however, that the dip was slight; and the cumulative total for the year to date not only remained at an all-time high but, at ten months, surpassed the total for any previous full year.)

Whither High Schools?

The role of the secondary school in helping the student to develop as a human being was the recurring theme of seminars held last month under the sponsorship of the New England Regional Council of the American Institute of Architects at Harvard University. Nearly 500 architects and educators attended the sessions, arranged in cooperation with the New England School Development Council, the Harvard Center for Field Studies in Education and the Boston Society of Architects. Highlight of a very lively and provocative conference was the address by Anthony Part, Under Secretary of the British Ministry of Education, who described postwar Brit-

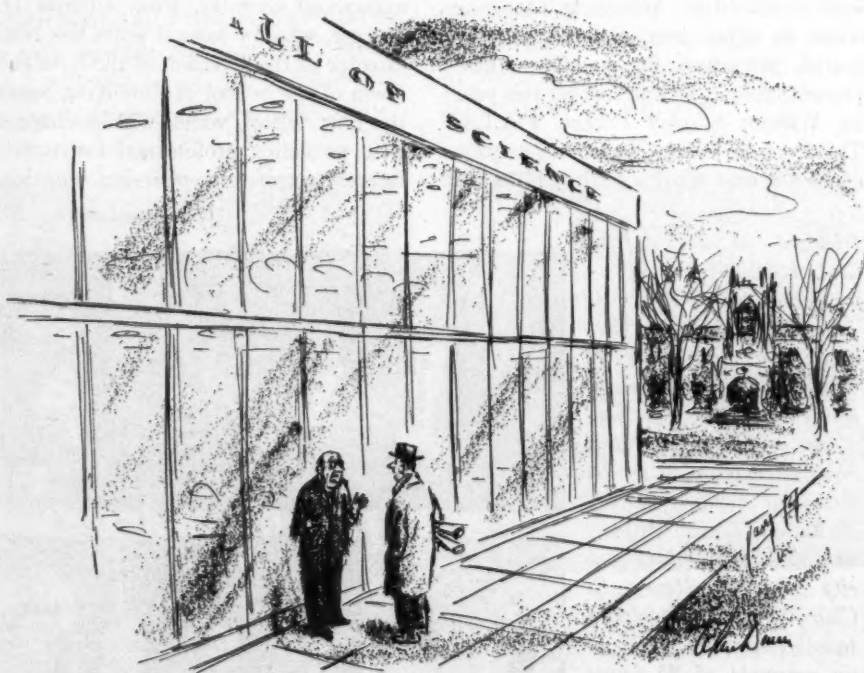
ish experience with prefabrication in schools. Mr. Part, stressing his belief that school buildings exercise "a subtle and continuing influence" on children, said that by employing prefabrication in about 20 per cent of each annual school building program "we have produced at an acceptable price some efficient buildings which have a lively atmosphere and a civilizing influence." As the British apply prefabrication, it gives the designer a structural system and a wall material; the rest is up to him. Mr. Part's listeners were impressed with the flexibility of an approach to prefabrication which makes it the servant rather than the master of the designer. Frank G. Lopez, senior editor of *ARCHITECTURAL RECORD*, told the meeting that "most architects are eager to help educators express in the physical form of the school plant the importance of each individual child," but he said this process is hindered by two things — one, "lack of understanding by citizens and even some educators of the sort of education the school building of the future should house," and second, the necessity to keep costs down. The latter problem, he said, is less serious because ways to control costs are being found; but, he asked, "If educators are not certain what they want and, as often happens, cannot convince a school board

or building committee that a certain educational course is desirable, can the architect be expected to produce satisfactory school buildings?" Dr. Harold B. Gores, Newton, Mass., superintendent of schools, asserted that "education has overextended specialization in schools." Doctor Gores called for adoption of the "consolidated high school" which would serve all the youngsters in a neighborhood rather than cluster those in specialized courses — trade, commerce, technical, classical — from all parts of a city or area. There were sessions on economic problems and the attitude of the public, social and community planning problems, secondary schools ten years from now, prototypes of buildings for the emerging educational program, and a long session, provoking much floor discussion, on, "Planning Secondary Schools in Answer to New Needs." Douglas Haskell, editor of *Architectural Forum*, was moderator of this one, with architects Henry L. Blatner, J. Stanley Sharp, and Samuel Homsey and educational consultant Leo T. Doherty as panelists. The program for the seminars was arranged by a committee headed by Prof. Walter L. Bogner of the Harvard Graduate School of Design, with the cooperation of A.I.A. Regional Director Austin W. Mather.

"An Approach to Good Design"

There was an attendance of more than 700 at the 16th annual convention of the Texas Society of Architects, held November 2-4 at the Shamrock Hilton Hotel in Houston. The program included a series of seminars on the convention theme, "An Approach to Good Design," as well as one seminar conducted by the national A.I.A. Committee on School Buildings, who were having a meeting concurrently with the conference. Nathaniel A. Owings, F.A.I.A., of the architectural firm of Skidmore, Owings & Merrill, made the keynote address, "Philosophy of the Practice of Architecture," discussing the basic precepts on which the large firm's approach to practice may be based. Architects and representatives of the allied arts led the "good design" seminars; speakers included Ulysses Floyd Rible, A.I.A.; Seymour Fogel, mural painter; Dorothy Draper, interior decoration; Garrett Eckbo, landscape architecture; Harold F. Wise, city planning and civic design; Prof. Jean Labatut, A.I.A.; and Walter Megronigle, of Ketchum Inc., A.I.A. public relations counsel. Awards in the

(Continued on page 16)



— Drawn for the RECORD by Alan Dunn

"Please, just a small potted climber or two — we don't want to lose our membership in the Ivy League —"

THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 15)

Texas Architecture 1955 competition were presented as follows: *First Honor Award for Non-Residence* — Caudill, Rowlett, Scott and Associates, Architects, for A & M Consolidated School, College Station, Tex. *Honor Awards for Non-Residence* — Cato, Austin and Evans, Architects, for Engineering Office and Classrooms Building, University of Houston; Harwood K. Smith, Architect, for Stewart Company Building, Dallas; Milton A. Ryan, Architect, for a Presbyterian Church, San Antonio; William E. Nash, Architect, for St. Mary's Student Center, College Station, Tex. *Award of Excellence for Residence* — Bolton and Barnstone, Architects, for Richard M. Hardison Residence, Houston; John G. York, Architect, for his own residence, Harlingen, Tex.; Harwood Taylor, Architect, for John A. Watson Residence, Houston.

Anybody Want a Gold Medal?

Lewis G. Adams, president of the Architectural League of New York, has announced the 59th National Gold Medal Exhibition, to be held March 12-30. All registered architects in the U. S. are eligible to submit entries, which must be received on or before Jan. 12, 1956. Medals are also to be awarded in landscape architecture, mural decoration, sculpture, design and craftsmanship, and engineering — in each case as related to architecture. Walker O. Cain heads the architectural jury, whose other members are Henry R. Shepley, Edward D. Stone, Ralph Walker and Gordon Bunshaft. Further details, and entry forms, are available from the League office, 115 East 40th Street, New York 16, New York.

PC and Retained Percentages

The Producers' Council, Inc. considers it is making progress in its efforts to achieve revision of "retained percentages" practices in the construction industry. Embarking several months ago, along with organized credit interests, on a campaign to modify retained percentage formulas so that additional funds could flow into building immediately, PC has since that time enlisted the aid of several other organizations and feels it is winning the battle by persuasion. At this fall's meeting of the Board of Directors of the American Institute of Architects, the A.I.A. officials considered the recommendations of the A.I.A.-

A.G.C. (Associated General Contractors of America Inc.) Joint Committee on Alternate Methods of Retained Percentages and A.G.C.'s recently adopted policy calling for use of the wording in Standard Form of Government Contract No. 23. This suggests that partial payments for construction work shall be withheld in 10 per cent of the estimated amount till final completion and acceptance of all work. There is the clause, however, that the contracting officer can, at any time after 50 per cent completion, make any of the remaining payments in full. The A.I.A. Board told members to exercise individual judgment in any change from current local practice. It said that even where such a change appears applicable and desirable, it should be undertaken only with a full understanding of "the dangers involved in some instances." Strongest support to date for the Council's stand came in a resolution passed in November at the annual meeting of the National Electrical Contractors Association. The resolution referred to "flagrant abuses" in connection with the percentage of contract payments retained by owners and their agents, a holdback passed on through the prime contractor to subcontractors and suppliers. The practice costs the construction industry almost \$2 billion annually in frozen credit, it was estimated. The N.E.C.A. resolution called upon the "appropriate authority within the American Institute of Architects" to take steps to effect immediately the suggested procedure for handling these percentages put forward earlier this year by William Stanley Parker, F.A.I.A. This formula, in brief, proposes retention of 10 per cent until a project is 75 per

cent complete; thereafter retention of five per cent on all portions that are themselves at least 75 per cent complete and 10 per cent on portions less than 75 per cent complete. The prime contractor would be required by the architect or owner to observe these percentages on a "fair and equitable" basis in respect to subcontracts. The PC viewpoint has also found support in resolutions passed by the National Builders' Hardware Association, the American Society of Architectural Hardware Consultants, and Mo Sai Associates, Inc., a trade association group composed of manufacturers of architectural masonry slabs. — E. M.

Bob Schmertz, New Edition

Architecture's singer of songs has a new record album out — "Robert Schmertz Sings His Songs" is the title and to get it you send five dollars to the Department of Public Relations, Carnegie Institute of Technology, Pittsburgh 13, Pa. The long-playing album includes 13 songs, among them such unforgettable epics as "Monongahela Sal" and "The Forks of the Ohio," not to mention that very special look at Renaissance architecture, "Lorenzo II Magnifico," and some very nice new ballads.

Education Notes

It's the Yale School of Architecture and Design instead of the School of Fine Arts under a general reorganization of the university's Division of the Arts announced recently. Prof. Charles H. Sawyer, who for several years has been director of the Division of the Arts and Dean of the School of Fine Arts, heads the new School, which will be charged with providing professional instruction in architecture, city planning, painting,

(Continued on page 20)

Pictured at the A.I.A. Central States Regional Conference at St. Louis (AR, November 1955, page 15); above — architect Eugene Mackey of St. Louis, engineer Fred Severud of New York (a speaker), architect Joseph Murphy of St. Louis, President Arthur Schwartz of the St. Louis Chapter, A.I.A., and architect and city planner Henry S. Churchill of Philadelphia (another speaker); below — an assembly of St. Louis architects, John Sweeney, William Lane, Bennett Applegate, Emmet Layton, Lester Roth and Rex Becker



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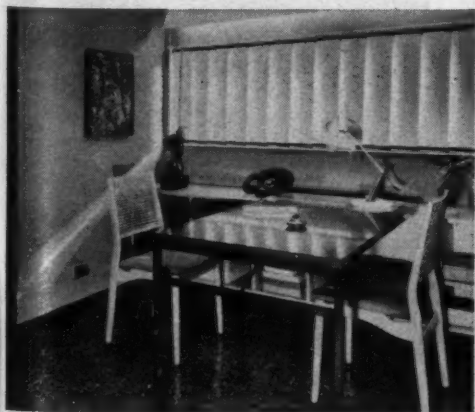
Widely acclaimed, New York's Upper Manhattan Medical Group Clinic integrates the highest standards of architecture, function and decor in an ideal union . . . in which MATICO Confetti tile is an essential specified element.

It's easy to see why more and more architects are specifying MATICO Confetti Tile Flooring for hospital projects.

Basically, it's because Confetti satisfies every need, every rigid requirement of the modern hospital. First, it is sanitary, durable and quietly resilient. But more than that, it is also fire-resistant and low in cost for both installation and main-

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In consultation rooms for doctors and patients Confetti was specified also — this time in black with white mottle. (In addition, Confetti is also available in nine other color combinations).



Architects planned the pharmacy as a “display piece” near the Clinic's entrance, where it can be seen through a wall of glass. Here, too, Confetti in white with black mottle was specified.



In these light and lifting circulation areas the Confetti floor of white with black mottle contributes to the air of buoyancy and lightness. Even under heavy traffic conditions Confetti's bright colors last and last.



In this intimate waiting room, the decor is one of colorful furnishings, restful lighting and more of MATICO'S airy, bright Confetti flooring.

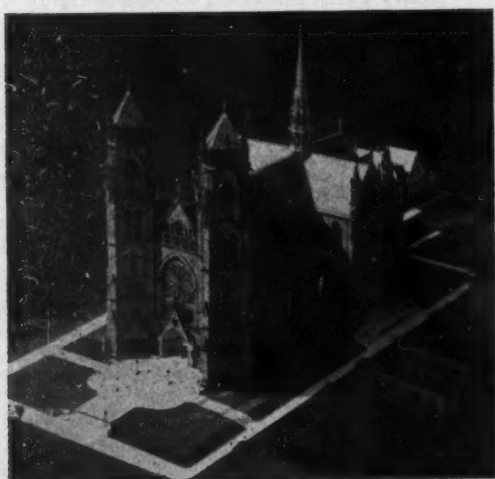
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5A313



Airview of SACRED HEART CATHEDRAL
showing cruciform design.



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Mechanical Engineers:
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Altar crucifix is life size
carved from flesh colored onyx.

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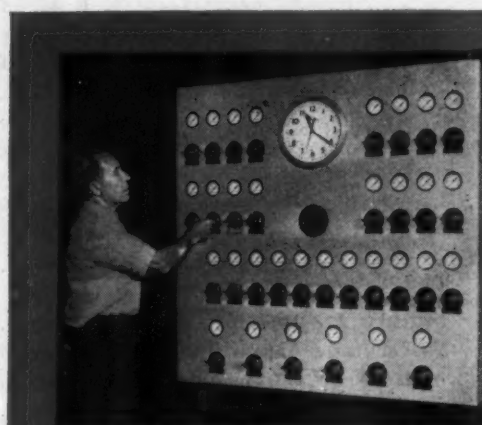
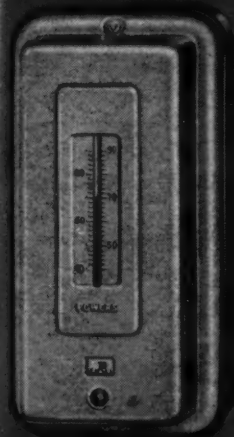
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Confessionals of hand carved white oak
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View from altar looking toward
rose window over main entrance.

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THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 16)

sculpture and the graphic arts as well as basic instruction on the undergraduate level in these fields in Yale College and the Yale School of Engineering. The new School will also have an associate dean, Boyd M. Smith, a former chairman of the Yale Department of Drama. The Division of the Arts is replaced with a new Committee of the Arts to have as rotating chairman the deans of the three art schools, Architecture and Design, Music and Drama. Prof. Paul Schweikher continues as architecture chairman and Josef Albers as design chairman. . . . Faculty news: Louis I. Kahn of Philadelphia has been named professor of architecture in the University of Pennsylvania's School of Fine Arts. In collaboration with Robert Le Ricolais, French engineer who has been appointed visiting professor of design, Mr. Kahn will introduce a course in "the integration of engineering and architecture," Dean G. Holmes Perkins has announced. . . . In the Department of Architecture at the University of Illinois, Chairman Alan K. Laing has announced the following appointments — Kenneth J. Conant, of Harvard, as George A. Miller Visiting Professor of Architecture; Harold J. Hornbeak, a graduate of DePauw University with an M.S. from Texas A. and M., as associate professor of architecture; Norman D. Taylor, a graduate of Rensselaer Polytechnic Institute, as instructor in architecture; James E. Mackey, who has both architectural engineering and civil engineering degrees from State College of Washington, and Norman H. Meyer, a University of Illinois graduate, as assistants in architecture. . . . At Illinois Institute of Technology, Jacques C. Brownson, an I.I.T. graduate who has been on the staff since 1949, has been advanced to assistant professor of architecture. . . . Dean Olindo Grossi of the Pratt Institute School of Architecture has announced the appointment of Irving Mogensen as graduate assistant following an international competition. . . . Visiting critics at Cornell's School of Architecture for the 1955-56 academic year were listed as follows: Joseph Amisano, of Toombs, Amisano and Wells, Atlanta; Jens Risom, furniture designer, of Jens Risom, Inc., New York City; Arthur G. Odell Jr., of A. G. Odell Associates, Charlotte, N. C.; Enslie O. Oglesby Jr., Dallas; Lawrence B. Perkins and Philip

Will Jr., of Perkins and Will, Chicago; and Donn E. Emmons, of Wurster, Bernardi and Emmons, San Francisco. . . . A Conference on Urban Design, and the role of planners, architects and landscape architects in the design and development of cities will be held April 9-10 at Harvard University. Details are available from Dean José Sert, Harvard Graduate School of Design, Cambridge 38, Mass. . . . New drafting desks especially designed by John L. R. Grand, head of the School of Architecture at the University of Florida, have been installed in the School — 230 of them. The new desks (see cut) combine special features appropriate to the draftsman's activities with the features of a modern, executive-type desk. . . . Awards: A master's degree scholarship in architecture has been awarded to Radoslav L. Sutnar of New York City, graduate student at Pratt Institute. The scholarship is given annually by the New York architectural firm of Katz, Waisman, Blumenkranz, Stein and Weber, to a student at Pratt Institute selected for ability and character to enable him to continue his work toward a master's degree at Pratt. . . . Leon Armantrout of Scott City, Kan., a fourth-year student in architecture at the University of Kansas, is the first recipient of the Paul Weigel Scholarship in Architecture. . . . First winner of the St. Louis Metropolitan Planning Fellowship at the University of Illinois is Klaus Kattentidt, a June 1955 graduate of the Washington University School of Architecture. The Fellowship is offered by the St. Louis Regional Planning and Construction Foundation. Mr. Kattentidt, who is working toward a master's degree in city planning at the University of Illinois, will select a planning problem in the St. Louis area as the subject of his thesis.

Home Builders' Biggest Show

The 1956 convention and exposition of the National Association of Home Builders will spread over the Chicago Coliseum and two hotels — the Conrad Hilton and the Sherman — when it is held in Chicago January 22-26. On the program for the general sessions, convention chairman Leonard L. Frank has announced, are discussions of mortgage financing, community facilities, land development, the economic outlook for the home building industry, and selling and merchandising. A large part of the program, says Mr. Frank, will be devoted to clinics and discussion



New drafting desk at University of Florida's School of Architecture is primarily of oak plywood construction, with a removable till-top of California sugar pine (easy to stick tacks into) adjustable to any height. The flat desk top of hard maple is 37 in. in height, but can be raised as desired. Of the three drawers, two are box type, one a file drawer. The writing slide is reversible as a pencil holder. In photo above, Professor Grand and student Jim Greene, Tampa

groups directed to the small volume builder.

Architects in Albany

New York's annual state association and A.I.A. regional meetings were held October 12-15 at the Ten Eyck Hotel in Albany. Trevor W. Rogers was elected president of the New York State Association of Architects, succeeding Adolph Goldberg. Other new officers: Harry M. Prince, first vice president; John W. Briggs, second vice president; Frederick W. Voss, third vice president; Simeon Heller, secretary; and Martyn N. Weston, treasurer. Adequate wiring was one of the major program topics; young architects another. Harold D. Hauf, chairman of the Department of Architecture at Rensselaer Polytechnic Institute, and Walter Taylor addressed a luncheon session.

Hans Knoll Dies at 41

Hans G. Knoll, president of Knoll Associates, Inc., was killed in an automobile accident in Cuba on October 8. He was born in Stuttgart May 8, 1914, and came to the United States in 1937. The founder of Knoll Associates and Knoll International Ltd., Mr. Knoll encouraged contemporary design in furniture and textiles. The firm will continue under the direction of his widow, Mrs. Florence S. Knoll, and other officers of the company.

(More news on page 24)



Mathilde Steinam, Stella S. Housman Wing, Monmouth Memorial Hospital, Long Branch, N. J. Architects: Ferrenz & Taylor, New York City. Contractors: Chas. B. Hembling & Son, Red Bank, N. J. Lupton Curtain-Wall System Type G. Width Modules: 8'8". Ventilators project in and project out, with fixed glass between. Opaque Panels: outside, blue-green porcelain enamel flecked with lighter spots, etched aluminum inside. Opaque panels are insulated — made of two components with air space between for drainage. Outside component is sandwich construction with aluminum Honeycomb core. Inside component is 1" Fiberglass cemented to aluminum sheet.

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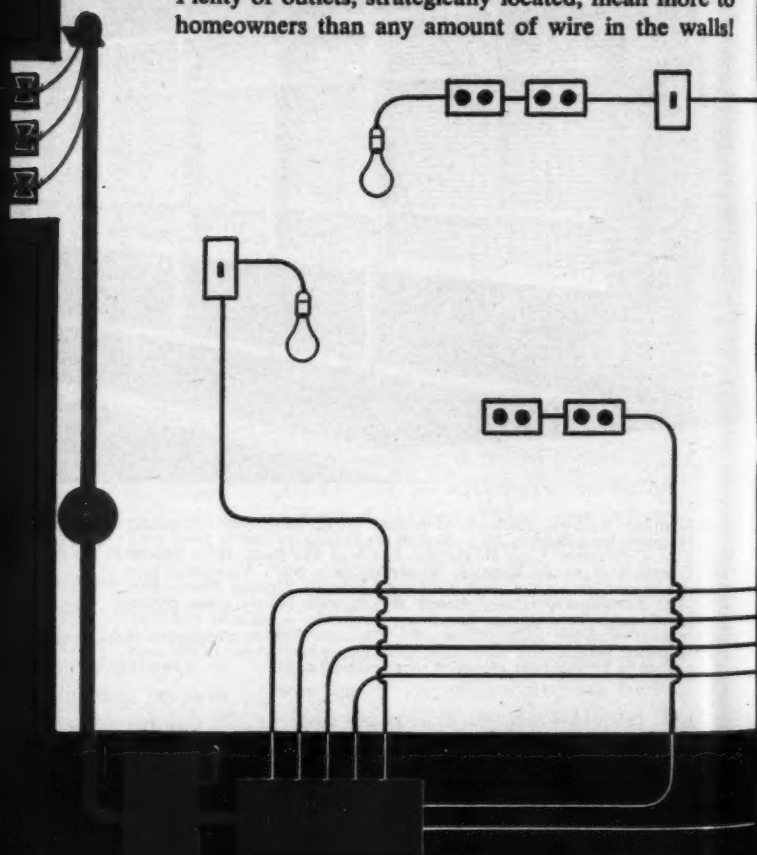
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Follow the NAHB standard when planning your own homes. Specify at least a 100-ampere service entrance, *plus* wiring that is adequate *all through the rest of the house!*

This means circuits with wires large enough to carry *full loads* of electricity, *plus* extra cir-

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Include enough outlets to handle the appliances of *tomorrow* as well as today. *Nothing* grows so fast as the electrical needs of a new home!

Arrange switches so Mr. and Mrs. Homeowner can "light their way" from room to room without risk of injury in the dark.

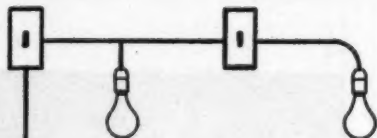
Features like these are not "extras." Today, they are essentials of sound home design. More

be sure of circuits

to carry the electrical load throughout the house and fully power every appliance even when others are on the line. Make circuit wires large enough to handle present loads — specify extra circuits for the house to "grow on."

remember light switches

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than ever before, homeowners recognize the value of a home that's well-planned *electrically*!

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THE RECORD REPORTS

(Continued from page 20)

VENETIAN VILLAS EXHIBIT SPOTLIGHTS PALLADIAN ERA

An exhibition now touring the country under the auspices of the Smithsonian Institution's Traveling Exhibition Service is providing a new look at a phase of architectural history which has a special interest just now for at least one contemporary architect (pages 150-151).

"Venetian Villas," originally organized by the Soprintendenza ai Monumenti Medievali e Moderni in Venice, consists of 144 photographic enlargements showing the memorable villas erected in the province of Veneto by Palladio and his architectural forebears and successors. They range from early Venetian Gothic to 18th century Neoclassicism, the Napoleonic era, and include many of Palladio's own 16th century villas.

Six of the photographs are shown on this page: (1) "The Bishop's Villa" (Padua), by Giovanni Maria Falconetto (1468-1534), described by the exhibition catalog as Palladio's "most remarkable forerunner"; next, four villas by Palladio — (2) Villa Poiana (Vicenza), (3) "La Rotunda" (Vicenza), (4) "La Malcontenta" (Venice) and (5) Contarini (Padua), begun by Palladio in 1546 and completed by Temanza in 1770; (6) Villa Negri (Vicenza), by A. Negri (18th century).



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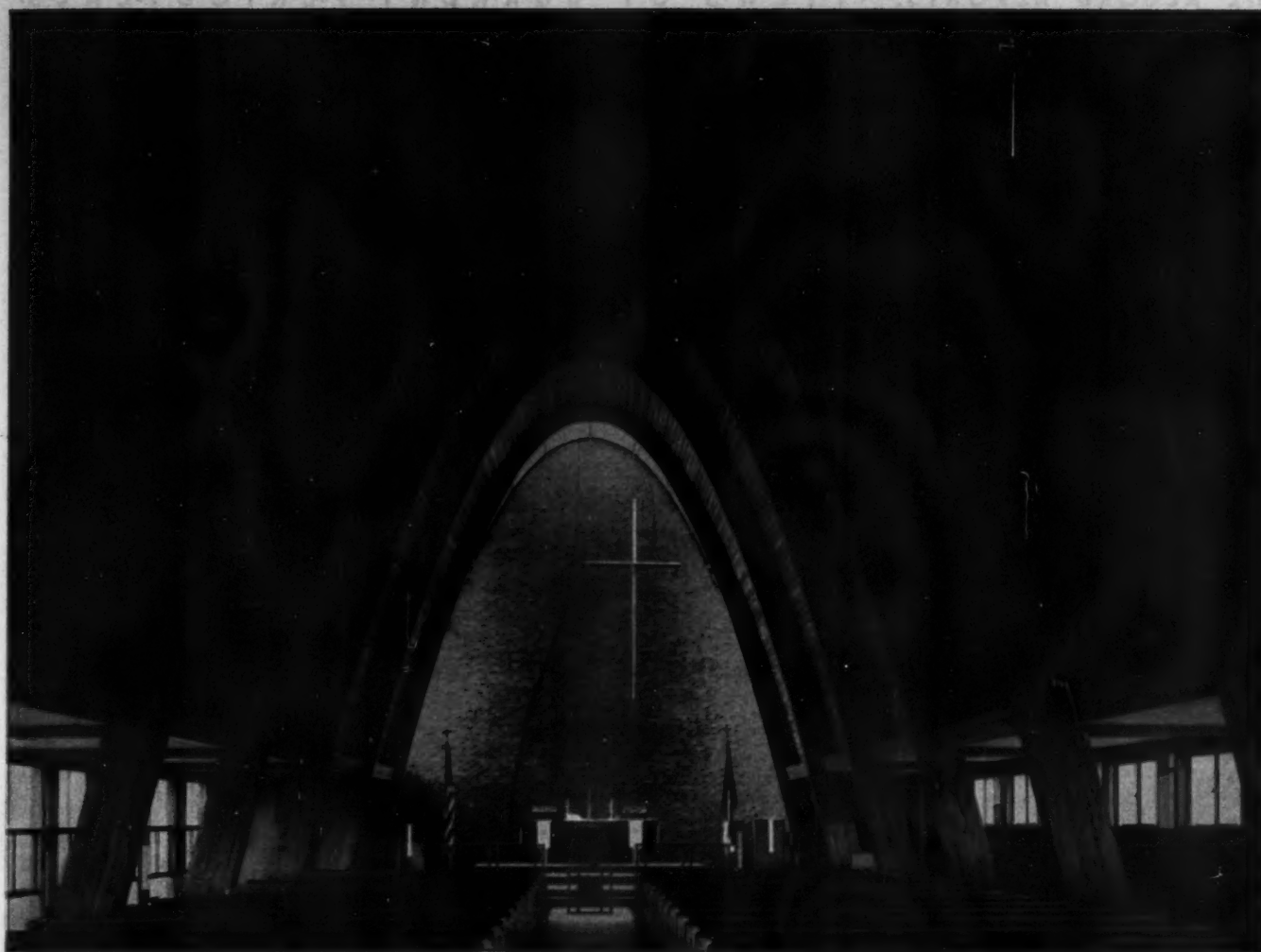


5



6

(More news on page 26)



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Holy Cross Lutheran Church of Wichita, Kansas, is 56' x 141', with framing of ten parabolic arches and decking of 3-inch tongue-and-groove sheathing. Seating capacity: 350; Architects: Ramsey & Mimes, of Wichita; general contractor: Clarence E. Volmer Construction Co., Wichita.



Ask for booklet of modern churches

A brochure has just been published which shows outstanding applications of glulam arches and beams in church architecture. Get your copy at your nearest Timber Structures representative; or fill-in and mail the coupon below.

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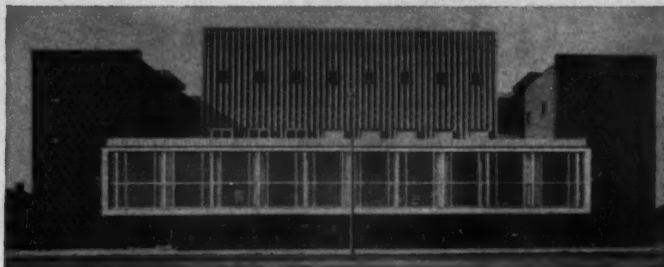
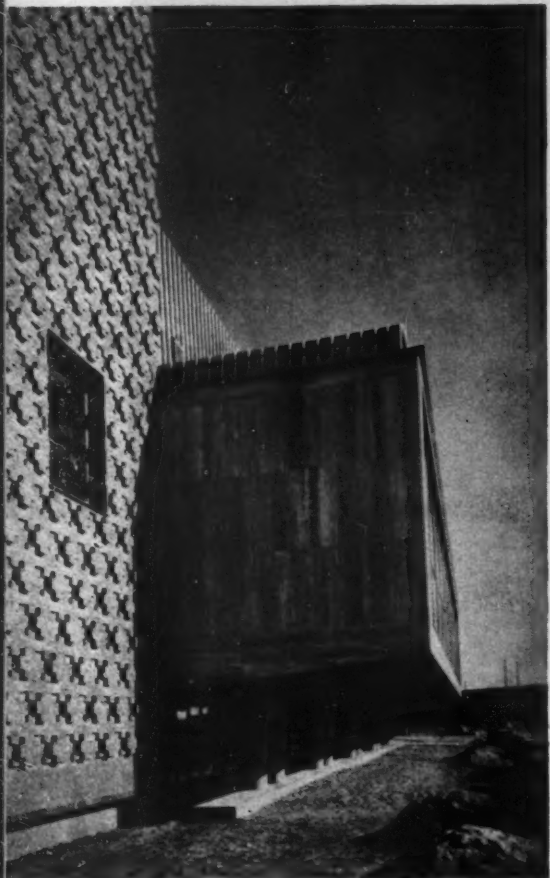
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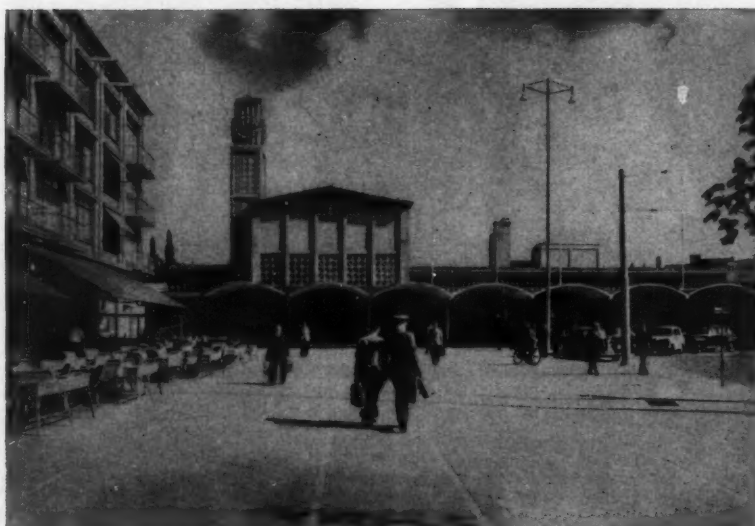
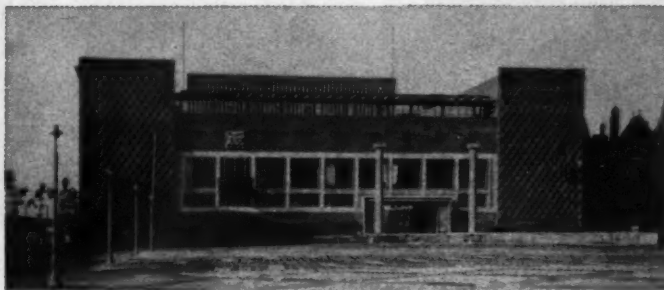
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THE RECORD REPORTS: VIEWS OF CURRENT PERIODICALS

ARNHEM REBUILT: NETHERLANDS CITY HAS NEW LOOK ELEVEN YEARS LATER



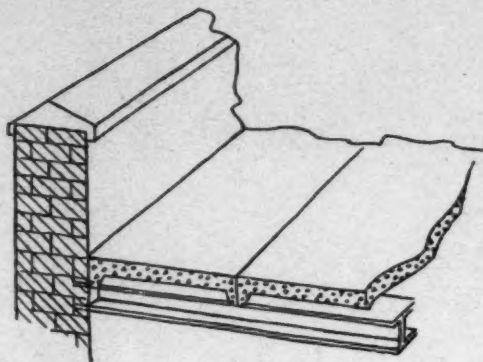
FORUM (The Netherlands), April-May 1955, reports on the new Gelderland Provincial Center at Arnhem, scene of German-Allied action late in 1944. The building faces a public square (below), has its back (above) to the Rhine, which flows directly behind the building and under the "Rhine-gallery." At right, ceremonial balcony overlooks the square. Architects were J. J. M. Vegert and H. Brouwer



BOUW (The Netherlands) August 13, 1955, also devoted the issue to the replanning and rebuilding of Arnhem. Above, the new railroad station, facing a public square, was designed by architect H. G. J. Schelling. At top, right, "main distribution center" by architect M. F. Duintjer; and below, the restored Waalse church, on which architect J. B. Baron van Asbeck worked. Behind church, building by architect J. Corn. Sprey has shop below, flats above



How would you insulate this instrument plant roof?



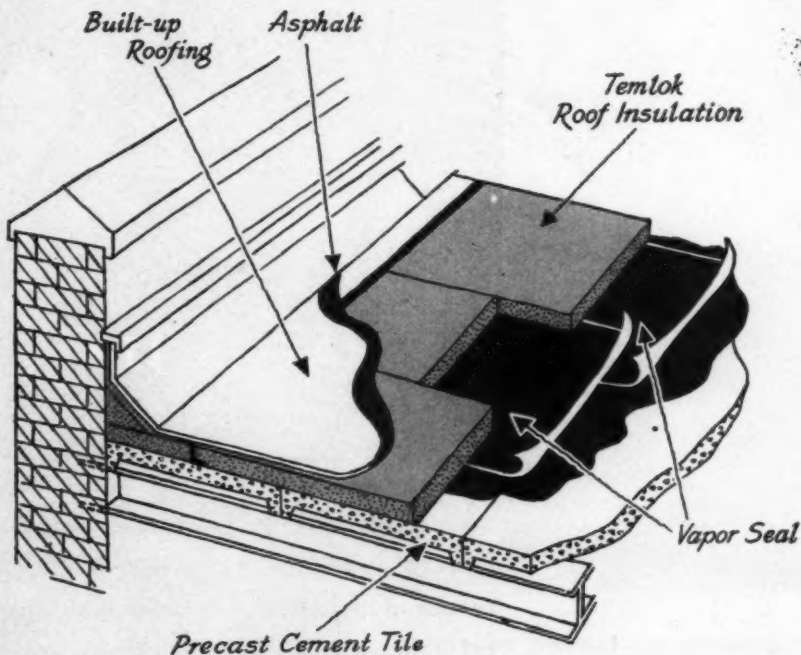
This one-story factory will be used to assemble and calibrate electrical instruments. A temperature of 76° F. and a relative humidity of 50 to 55% must be carefully maintained throughout the year. Outside design temperature is 10° F. below zero. How would you insulate the 1½" precast cement tile roof deck to prevent condensation and help hold interior temperatures economically and accurately?

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In installations where service conditions are unusually severe, or where extra moisture resistance is needed, Armstrong Corkboard or Asphalt-Impregnated Temlok should be specified. You can get full details on all three Armstrong roof insulating materials by calling your near-by Armstrong office.

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PBS READIES REVISION OF BUILDING STANDARDS

New Editions of Design Handbooks Are Planned to Incorporate Advisory Committee Recommendations; Effects Minor, Says PBS

The long-awaited report of the industry committee appointed last year to review "specified General Services Administration documents, criteria and practices that establish design and construction standards" was made public last month; GSA's Public Building Service announced that the recommendations had been adopted, with a few minor modifications, and will be incorporated in revised editions of the five handbooks which are the basic guides for private architects and engineers working on Federal projects. PBS said the changes would appear "in a matter of weeks" and copies of the report will be made available to architects and engineers who are considered for projects under the lease-purchase construction program. The affected handbooks, which until now had not been revised except for occasional "clarification of policy" statements since 1946-47, cover (1) mechanical and electrical services, (2) structural systems, (3) drawing requirements, (4) post offices and courthouses and (5) post office garages.

PBS Sees Lowered Costs

Economy of design and construction is the basic theme of the committee's report; and PBS officials believe adoption of the recommendations will tend to reduce Federal building costs, though they describe effects on building practices as "minor." The committee, however, had high praise for the "outstanding job" PBS has done over the years in keeping its standards up to date. The PBS requirements, the report said, "compare very favorably with a good grade of commercial construction, which would indicate to us that the staff of the Public Buildings Service is well informed on commercial construction, new methods and products and developments in the building industry as a whole."

The seven-man committee, headed by Earl H. Lundin of the New York architectural firm of Carson & Lundin, grouped its recommendations under 37 headings covering a wide range of subjects from space planning and structure to clocks and door bucks. There is a lengthy section on "Functional Design of Office Buildings" containing space and cost data which should be of interest

to any architect concerned with office building design.

The committee's most important recommendations are in the structural and mechanical areas. These structural comments are specifically emphasized:

(1) Structural live loads should be restudied and some should be reduced.

(2) A uniform type of soil classification is recommended and should be correlated so as to result in a standardized evaluation as to the type of foundation required.

(3) Design pressures for wind forces on structures should be reduced.

(4) All references to standard structural codes should be made as of current basis.

(5) Current practice of designing Government buildings primarily in concrete is sound for low buildings, except for geographical factors.

(6) The block type of building offers greater structural economy, greater stability and more safety than any other type of plan, particularly where substantial lateral or shock forces are to be resisted.

(7) Studies directed toward defining design criteria and conditions under which prestressed or post-tensioned precast concrete will be permitted in PBS construction are recommended.

(8) In the construction of steel frame structures, greater use of high tensile bolts is recommended.

On the mechanical side, the committee recommended a basic change in determining when air conditioning shall be used in Federal buildings. The PBS standard has called for air conditioning in regions of the U. S. where the "effective summer temperature" is 84 deg F for a prolonged period of summer heat; the committee recommended that the temperature dividing line be lowered to 80 deg F so that "Government buildings will be designed more in line with present-day private practice."

Among the comments on heating:

(1) "Radiant heating should be provided for ramps located where snow or ice can cause skidding of trucks thereon. For large buildings radiant heating should be considered for snow-melting on sidewalks or entrances."

(2) "We have given consideration to

the matter of radiant heating for non-air conditioned buildings. We do not recommend it now, because installation techniques have not yet been developed to the point where this form of heating is competitive in first cost with steam heating."

Revisions of PBS standards on elevators recommended addition of material covering operatorless or "without attendant" elevators.

On the subject of exterior facings:

"It is the opinion of committee members that for the time being a metal skin should not be used for exterior covering for the entire building. The committee feel that at the present such covering might be subject to air and water infiltration and other defects that have yet to be corrected. The cost of this material may be greater than masonry. We believe that the metal skin for covering of the entire exterior of a building is on its way in, and the day will come when it will be foolproof and when its cost will be comparable to masonry. The PBS should not experiment with any particular type of material but should use proven materials to assure minimum operational and maintenance costs."

A complete list of the subjects covered by the report follows: Planning, Limit of Sub-Contracting, Structure in General, Floor to Floor Dimension, Windows, Skylights, Elevators, Parapets, Acoustical Correction, Hardware, Floor Covering, Door Bucks, Exterior Facings, Areaways, Masonry Pointing, Service Entrances, Corridors, Interior Doors, Telephone Booths, Murals and Sculpture, Structural Glass, Sprinklers, Chilled Drinking Water, Vacuum Cleaning, Wall Finishes, Revolving Doors, Clocks, Site, Structure, Electrical, Heating, Ventilating and Air Conditioning, Plumbing, Elevators, Escalators and Dumbwaiters, Functional Design of Office Buildings, Maintenance, Repairs and Modernization.

Members of the reviewing committee who signed the report are, in addition to Mr. Lundin: George M. Ewing, architect, of Philadelphia; Albert L. Baum, Tage Pearson and Archie M. Erickson, engineers, of New York; John J. McDermott, contractor, of Washington, D. C.; and Earl Schultz, building management, Chicago.

(More news on page 32)



NOW! a touch of excitement in the car

The dramatic Otis Electronic *Touch Button*—which makes AUTOTRONIC® elevators respond to your floor calls—is now available for car operating panels. Signaling for the floor you want is an exciting and somewhat mystifying experience with the Otis Electronic *Touch Button* Panel. Nothing moves. A mere touch of a finger lights your floor number button. What makes it work? The Otis Electronic *Touch Button* has no moving parts or contacts. There's an electronic tube behind each floor number. A simple touch excites the tube and lights it to show that your call has been registered. Then as the car arrives at your floor, the call is cancelled; the tube stops conducting and goes dark. Simple—and dramatic AUTO-TRONIC elevating!

passengers take over 100%

How successful are completely automatic *without attendant* AUTOTRONIC elevators for busy buildings? Here's the record: The first AUTOTRONIC *without attendant* elevators were installed by Otis in the Atlantic Refining Company Building in Dallas, Texas in 1950. At the end of July, 1955, Otis had sold 711 new *without attendant* elevators for installation in 178 buildings and had contracted to convert 495 elevators in 109 existing buildings to completely automatic operation. This includes a second order from the Atlantic Refining Company for its Philadelphia building. Today, almost all new buildings are being planned on the basis of *passenger operated* elevators!

race track owners play "comfort to win"

Horse racing fans walk an average of three miles a day at the track. They're constantly on the move to and from the saddling paddock, the mutuel windows, the track rail and the points of refreshment during an eight race program. With patron comfort in mind, many of the leading tracks have installed Otis Escalators to eliminate all stair climbing. Fans will find Otis Escalators adding to their enjoyment at Arlington and Washington Parks in Illinois, Hialeah and Gulfstream Parks in Florida, Laurel Park in Maryland, and Monmouth and Garden State Parks in New Jersey.

FREE BOOKLET! hydraulic freight elevators

You'll find a complete description of the NEW Otis Plunger Electric Freight Elevators in Booklet A-414. It lists typical sizes from a light duty type with 2,500 lbs. capacity and manually operated car gates up to 20,000 lbs. power truck elevators with time saving, power operated doors. It details the new Otis compact, self-contained power unit that makes possible smooth starts and stops and automatic leveling within 1/4" of floor level. It shows how the Otis Plunger Electric Freight Elevators, which require no penthouse, keep all direct heavy vertical loads off the building structure and simplify the hoistway construction. There's no real limit to the size, capacity or use of the Plunger Electric elevators described in Booklet A-414.

"SAFETY" is an important elevator word

"The most important word in the mind of anyone responsible for the operation of an elevator system is SAFETY," says Harry E. Wells. "It's important here at the Union Commerce Building in Cleveland where we have a fixed population of 5,500 people and 43,000 elevator riders daily. We handle traffic with 29 Otis elevators (19 are AUTOTRONIC without-attendant operation) which are kept at peak performance with 'Engineered Maintenance' by Otis. We're interested in the guarantee of Otis' high standards of safety. Especially, the checking and replacing of all wearing parts to assure uninterrupted peak safety performance."

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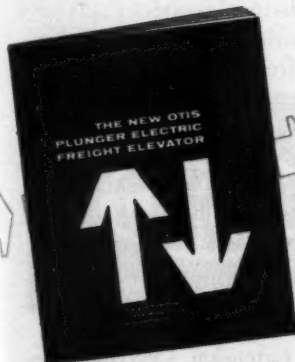
FREIGHT
ELEVATORS

CARS AND
ENTRANCES

DUMBWAITERS

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Otis

CONSTRUCTION RECORDS SET AND THE BOOM CONTINUES

Construction contracts for the first nine months of this year have already topped the total for all of 1954 by \$112,064,700, and fall only \$28,475,300 short of the record set in 1951. The total at the end of September 1955 was \$2,267,023,900.

Figures published in the MacLean Building Guide show that the nine-month cumulative total this year was \$694,507,000 higher than the nine-month figure for 1954 and \$388,988,100 higher than the nine-month total for 1951.

MacLean's statistics show that the total value of \$301,066,400 in construction contract awards for September 1955

was \$120,436,100 higher than that of the same month last year. This is the third month so far this year that has exceeded \$300 million, and the fifth such month on record; it represents the highest dollar volume ever listed for September by the statisticians.

Cumulative contract award totals for the four construction categories listed are, for the first nine months of 1955: residential, \$910,413,600; business, \$555,493,500; industrial, \$264,753,100; and engineering, \$536,363,700.

"As the third quarter of 1955 ended," MacLean's commented, "the Canadian construction industry was assured that the boom year that had been forecast by many authorities had, indeed, reached

fulfillment. All phases of the industry have shared in the record year to date, and the question now is: By just how much will 1955 surpass the 1951 record and how long will this prosperous period last?"

Housing Up, Too

Housing starts in August 1955 rose 41 per cent over the starts in August 1954 — from 10,978 for last year to 15,435 this year, according to the Dominion Bureau of Statistics. Completions increased 38 per cent, to 10,685 units from 7718.

Comparative totals for the first eight months of 1955 and 1954 show 88,790 starts so far this year for an increase of 24 per cent over 1954, and 72,519 completions for an increase of 26 per cent. Houses under construction at the end of August totaled 85,933 units, up 19 per cent over the 72,150 uncompleted at that time last year.

NEUTRA WILL BE DIRECTOR OF ROUNDTABLE AT BANFF

Under the joint sponsorship of the Alberta Association of Architects and the Department of Extension, University of Alberta, Richard J. Neutra will direct "An Exploration of Architectural Ideals and New Contemporary Approaches" at the Banff School of Fine Arts, Banff, Alta., January 12-19, 1956.

All architects, Canadian and other, are invited to participate in the roundtable, of which the stated aims are: (1) to stimulate individual creativity; (2) to rekindle and rededicate architects to their ideals in architectural design; and (3) to promote an international understanding and exchange of ideas within the profession.

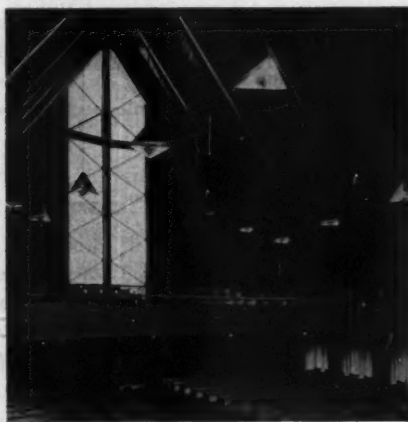
Under Mr. Neutra's leadership, the conference program will consist of lectures, panel discussions and seminars, informally mixed with social activities, sports and sightseeing.

Inquiries should be addressed to the Department of Extension, University of Alberta, Edmonton, Alta.

A PUBLIC RELATIONS MOVE: QUEBEC ARCHITECTS ON TV

The Province of Quebec Association of Architects is cooperating with the Canadian Broadcasting Corporation CBFT French-language network in presenting two half-hour television programs on architecture. The programs'

(Continued on page 36)



ALTAR FRAMED BY ORGAN IN NEW LUTHERAN CHURCH

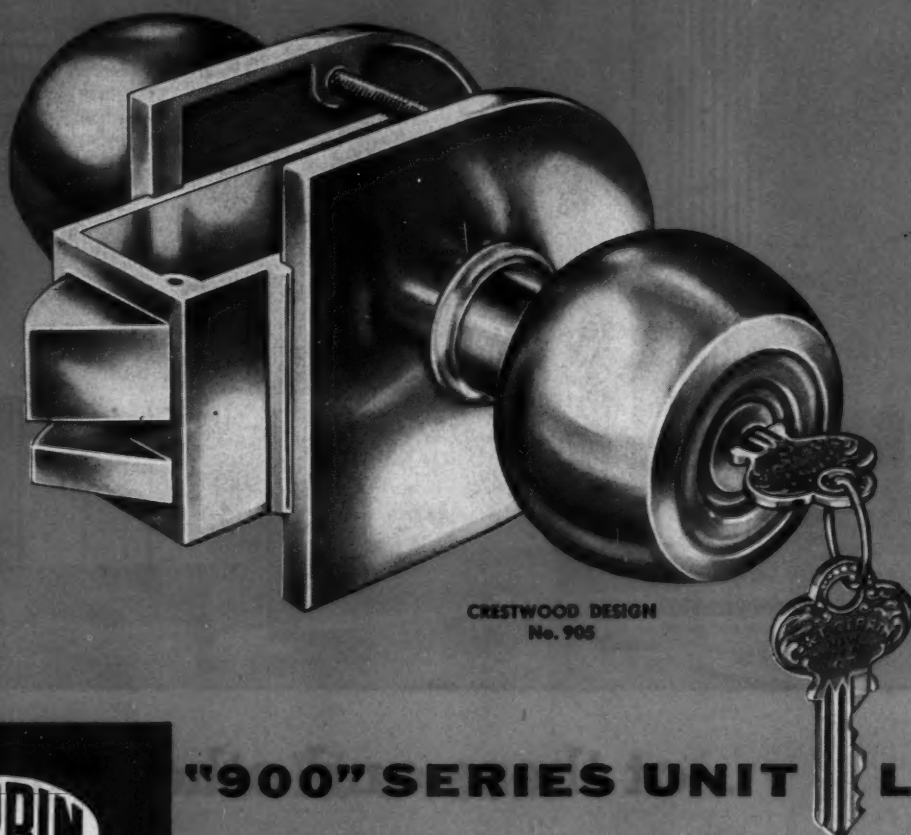
To focus attention on the altar of St. Peter's Estonian Evangelical Lutheran Church of Toronto, the architect, Michael Bach of Toronto, tapered the building toward the altar and framed it with the organ pipes and a large window, which will eventually be filled with stained glass depicting Christ in an attitude of benediction. The tapering of the building is also designed to improve the acoustical properties of the church.

The roof construction is laminated wood arranged in a crossing pattern; the wood roof deck has been left exposed. At the floor level, the space between the arches was filled with glass. The front wall of the church is of brick to reduce the noise of traffic outside.

At the rear of the church the balcony provides space for overflow crowds, the choir and the organ console. The balcony is suspended from the arches to leave the lines of the arches uninterrupted.



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CRESTWOOD DESIGN
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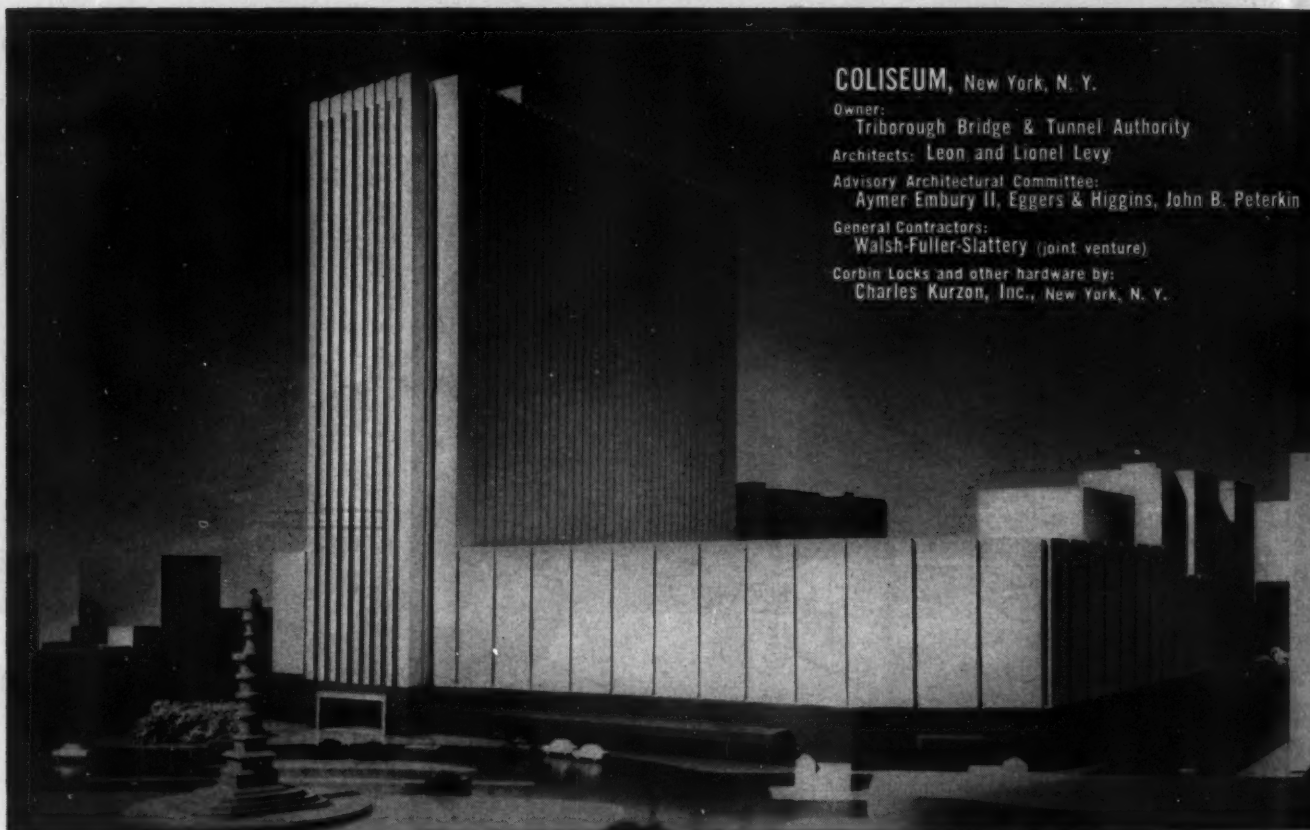
all climatic conditions . . . and precision manufacturing tolerances for *all* parts keep quality uniformly high *throughout* the lock. What's more, all Corbin Unit Locks are designed for foolproof application . . . factory-assembled for easy, one-piece installation. No mortising required. Any one of 20 available functions fits into simple cut-out in door.

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SCHWABACHER HARDWARE CO., Seattle, Wash.



CLEMSON COLLEGE, Student Dormitory, Clemson, S. C.

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General Contractors:
DANIEL CONSTRUCTION CO., Greenville, S. C.
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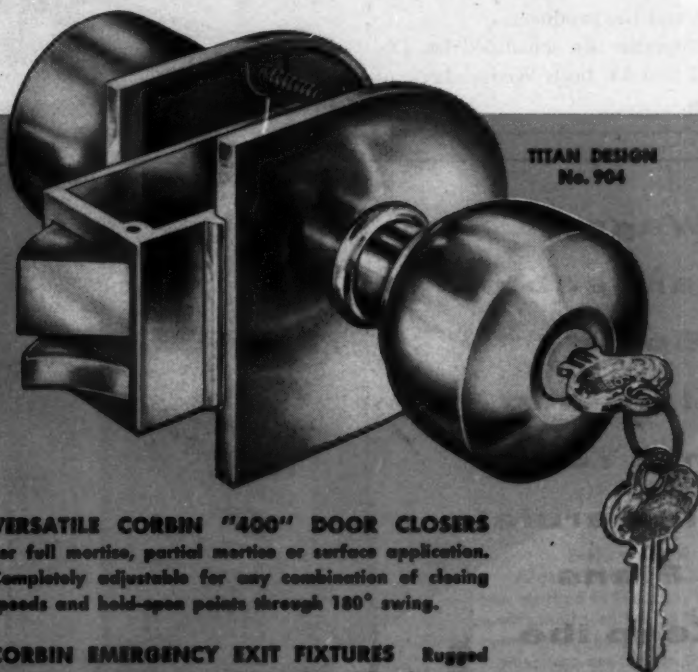
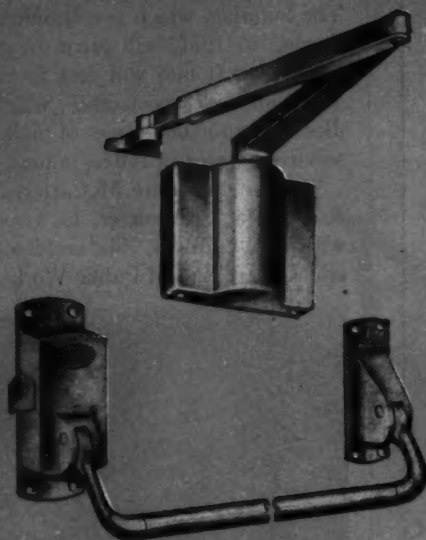
FAYETTE COUNTY HOSPITAL (Addition) Vandalia, Ill.

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COMPANY, Phoenix, Ariz.

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SENIOR HIGH SCHOOL, Danville, Virginia
Architects:
THOMPSON & RAGLAND, Danville, Va.
General Contractors:
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MONTAGUE-BETTS COMPANY,
Lynchburg, Va.



THE RECORD REPORTS NEWS FROM CANADA

(Continued from page 32)

format calls for a 10-minute talk on architecture by the show's producer, a 10-minute sketch illustrating important points, and a 10-minute discussion by an architect and the producer.

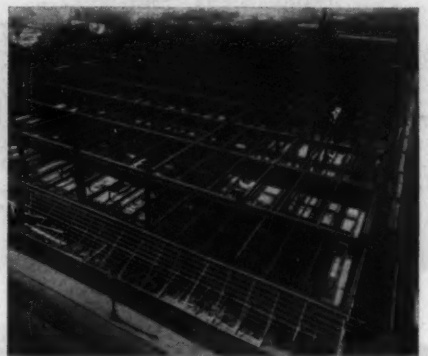
The programs are scheduled for December 7 and 14, both Wednesdays, at 10:00 P.M.



VANCOUVER POST OFFICE TO HAVE ROOFTOP HELIPORT

The new post office planned for Vancouver will, it is claimed, be the largest welded steel frame building in the world (see cut below) and the only building in Canada with a heliport on the roof. The building, which is scheduled to be opened in 1957, will have an area of 116,000 sq ft and will cost \$9,600,000. The Vancouver post office, which handles about 750,000 pieces of mail a day, services an area of 150 sq miles.

The architects are McCarter, Nairne & Partners, Vancouver, in association with E. A. Gardner, chief architect, Federal Department of Public Works.



ONTARIO ENGINEERS MEET, CHOOSE NEW EXECUTIVES

The Ontario Chapter of the Association of Consulting Engineers of Canada, holding its annual meeting October 17 in Toronto, elected J. F. MacLaren chairman of its executive committee for 1956. Other members of the committee are C. D. Carruthers, J. H. Ross and S. W. Archibald.

The meeting focused on the schedule of fees for consulting engineers recently approved by the Ontario Association of Professional Engineers. There are two schedules — the first for the use of consultants working directly with owners, and the second for services rendered to architects. The standard agreement form

(Continued on page 40)

**Wagner
Changeable
Boards
Integrated
Into Your
Commercial
Plans
Keep the
Job "Clean"**



This modern equipment is popular everywhere because it eliminates the necessity of cluttering up an otherwise attractive building front with makeshift signs.

Worked into original planning, it results in more pleasing design than when added later, and many times permits great savings to the builder. Designed into new or remodel jobs, Wagner Boards with their great sales promotion power lend an air of fresh thinking and sound logic to your proposals. They can be designed without limitation as to size.

AND FOR FIRM NAME IDENTIFICATION SIGNS

Wagner cast aluminum Raillock Letters are locked on a stainless steel rail for mounting flush with or projecting from the background or in standee position. Available in four styles, six sizes and many colors in baked crackle or smooth finish.

A detailed catalog of Wagner products which includes design and construction information will be sent on request.

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629 S. Hoyne Avenue • Chicago 12, Illinois

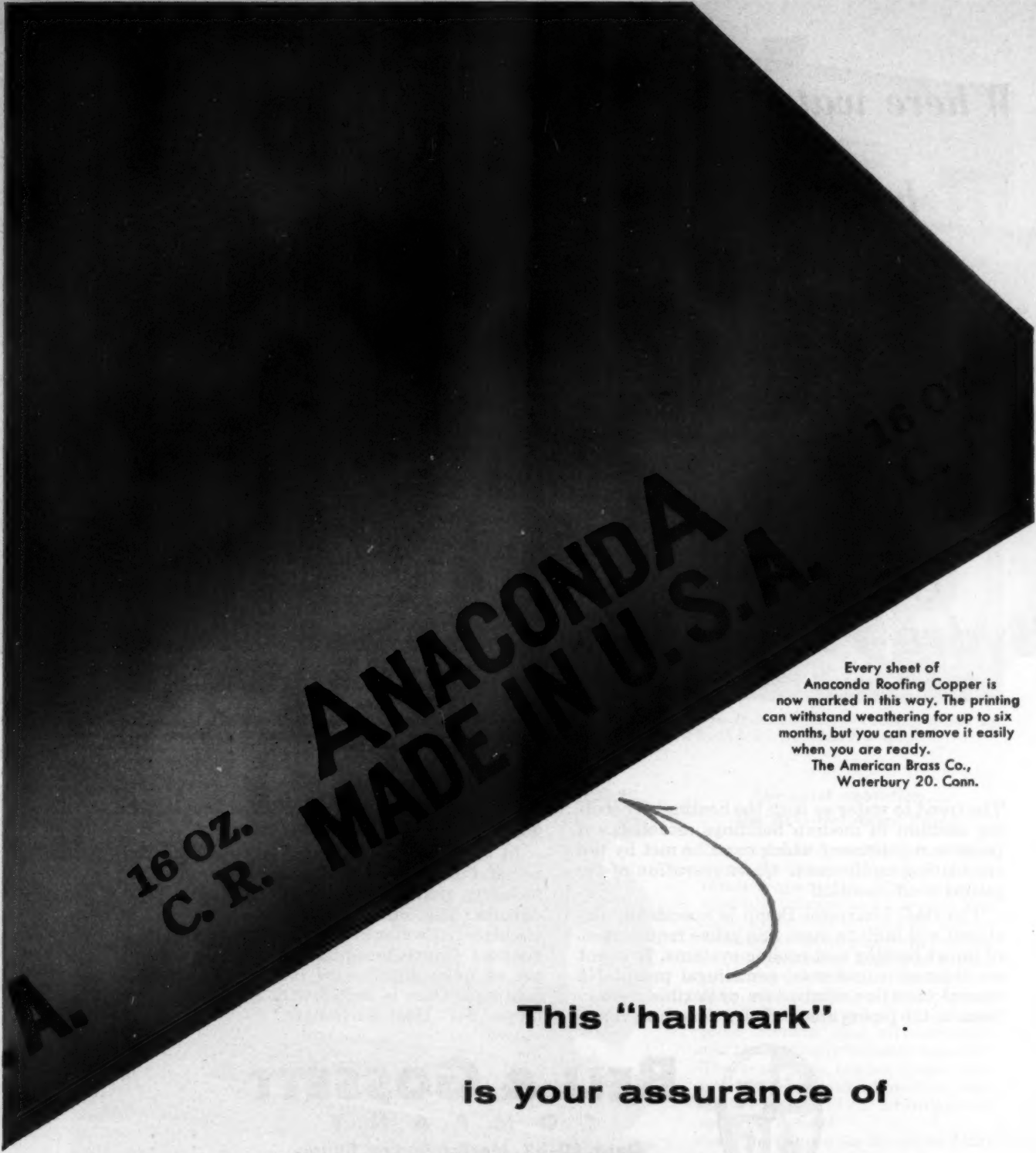
Please send free catalog on Wagner products.

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FIRM _____

STREET _____

CITY & STATE _____



Every sheet of
Anaconda Roofing Copper is
now marked in this way. The printing
can withstand weathering for up to six
months, but you can remove it easily
when you are ready.
The American Brass Co.,
Waterbury 20, Conn.

This "hallmark"
is your assurance of
quality sheet copper—
in the gage and temper you want

for better sheet metal work use

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COPPER

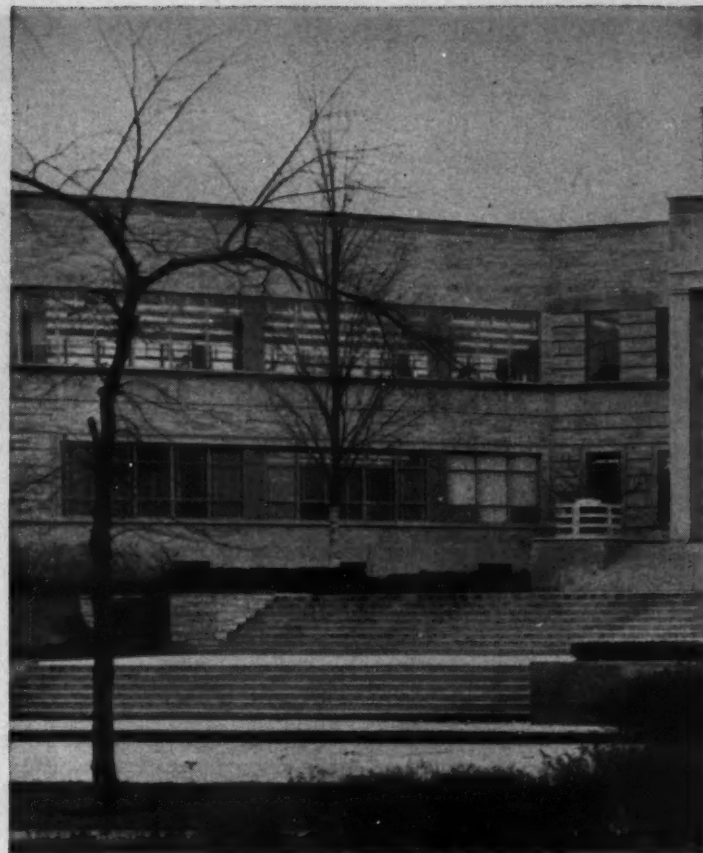
*Where water must be
heated or cooled
...and circulated
quietly, specify*



Hydro-Flo^{*} products

The trend to water as both the heating and cooling medium in modern buildings establishes a positive requirement which must be met by the circulating equipment. *Quiet operation of the pumps is all essential!*

The B&G Universal Pump is specifically designed and built to meet this prime requirement of liquid heating and cooling systems. It is not an ordinary commercial centrifugal pump! No special vibration eliminators or flexible connections to the piping are needed...noise and vibra-



Rotary International Building, Evanston, Illinois, employs B&G Universal Pumps and Heat Exchangers in the combination heating and cooling system.

Architects: Maher & McGraw, Evanston, Ill. . . . Construction Engineers: Neiler, Rich & Bladen, Chicago. . . . Heating & Air Conditioning: C. W. Johnson, Inc., Chicago. . . . Plumbing: O'Callaghan Bros., Chicago.

tion have been engineered out! *You have to touch a B&G Universal to tell if it is running!*

In the building illustrated above, B&G Universal Pumps are used to circulate all water, including that in the chiller and cooling tower circuits. The same piping system is used to circulate hot water in winter and cooled water in summer. Convectors with adjustable speed fans act as room distributing units. Water for the heating system is heated with steam in a B&G Type "SU" Heat Exchanger.



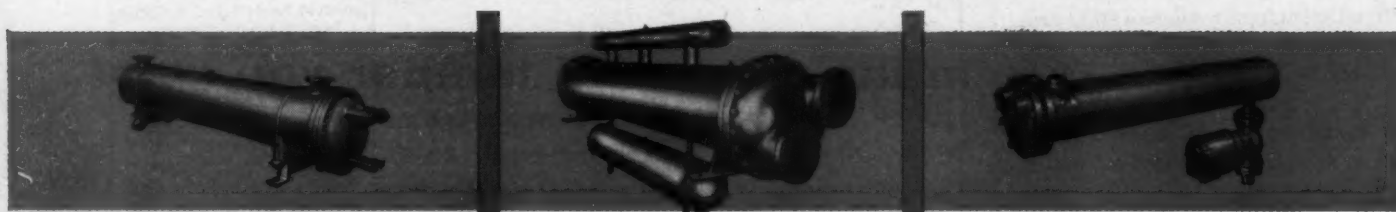
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C O M P A N Y

Dept. ED-32, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, W. Toronto, Canada

*Reg. U.S. Pat. Off.



B&G Evaporators

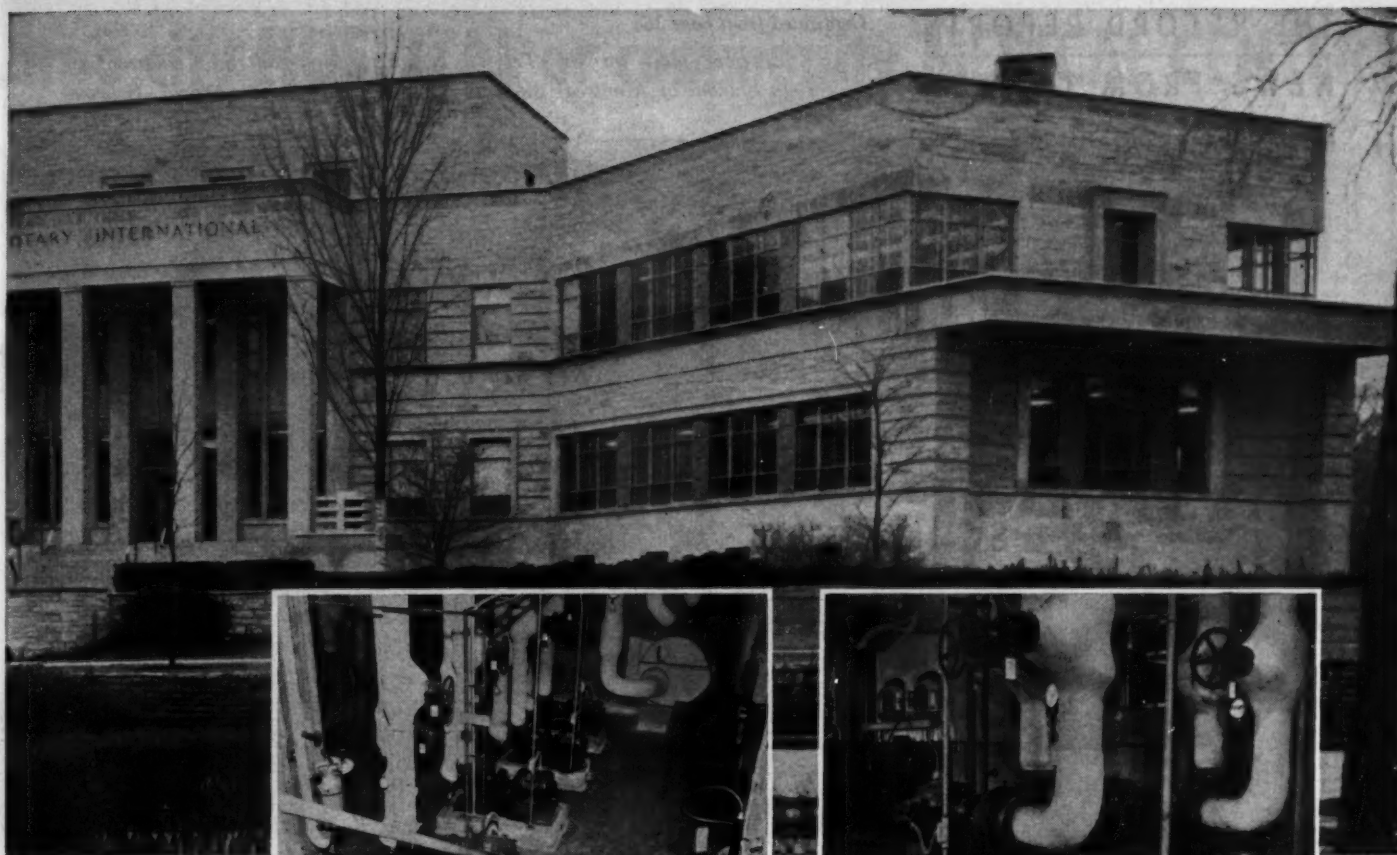
Unique design prevents oil trapping in the head passes. Easy to install and insulate. Built to ASME Code.

B&G Condensers

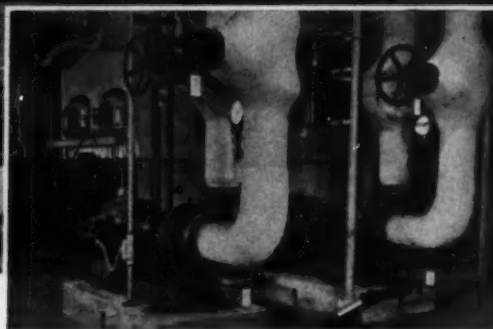
Time-tested design and rugged construction assure top performance over a long service life. ASME Code constructed—certified by Hartford.

B&G Type "WU" Heat Exchangers

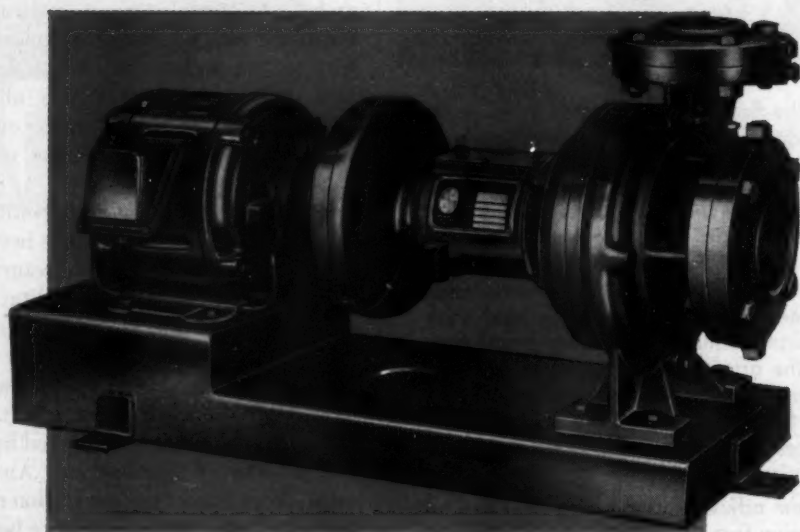
Boiler water is pumped through the "WU", greatly increasing capacity and permitting close control of service water temperature. Reduces material and labor—no tank needed.



Battery of B&G Universal Pumps for circulating hot and cooled water through system.

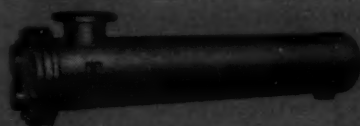


Circulation from chiller to cooling tower is handled by B&G Universal Pumps.



For quiet operation... the B&G Universal Pump

In every detail, the B&G Universal Pump is designed for *silent, vibrationless* operation. The motor is specially constructed, tested and *hand-picked* for quietness. Sleeve bearings in both pump and motor . . . suspension in ring-type rubber mountings and flexible spring couplers, all contribute to quiet operation. Other features include the leak-proof "Remite" Seal, oil lubrication and hydraulically balanced impeller. The removable bearing frame permits servicing without breaking pipe connections—all the advantages of split case design! Send the coupon for complete data.



B&G Type "SU" Heat Exchanger
For steam to water heat transfer. Generous heat transfer surface heats water instantly as required. Wide capacity range meets all water heating requirements.

BELL & GOSSETT COMPANY, Dept. ED-32, Morton Grove, Ill.

Please send literature as checked—

- ☐ Universal Pumps ☐ Evaporators ☐ Condensers
☐ "SU" Heat Exchangers ☐ "WU" Heat Exchangers

NAME.....

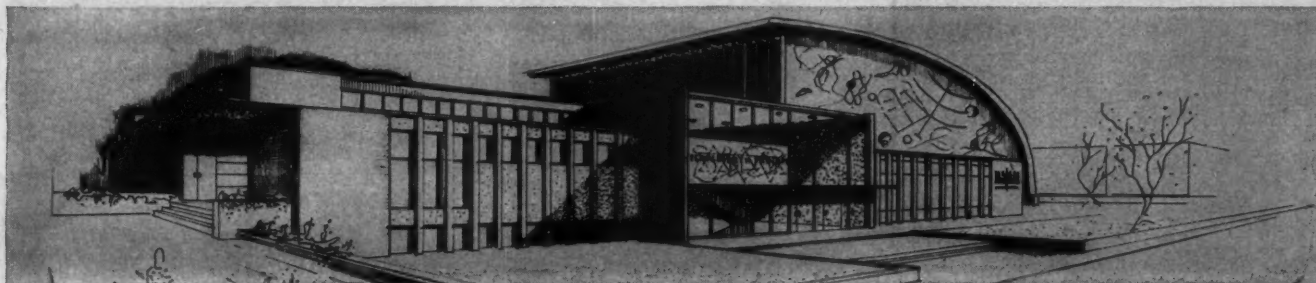
ADDRESS.....

CITY.....ZONE.....STATE.....

(Continued from page 36)

Split level plan for the Temple
Beth Shalom of Montreal contains

hall seating 800 and classrooms;
the architect is Arnold Schrier



Headroom to spare with a SCHLAGE DOOR CLOSER



Schlage — leader in locks — brings you the first surface-mounted door closer to eliminate unsightly brackets and provide unobstructed doorway clearance . . . architecturally styled to complement modern doorway decor.



INSTALLATION VERSATILITY . . .

The Schlage Door Closer incorporates mechanical design features that provide unsurpassed versatility. It's completely reversible . . . the double-ended shaft design permits quick, easy attachment of the arm on the top or bottom of the

closer for installation on either side of the door, regardless of swing. Because of the reversibility of the Schlage closer, top jamb installations can be made without accessory brackets or other devices . . . an exclusive Schlage feature that assures full doorway clearance, maximum headroom.

- **Easier to Adjust** — Two simple screw adjustments provide any desired combination of swinging speed and closing force . . . in a matter of seconds.
- **Easier to Install** — Use of separate mounting plates eliminates need for holding closer during installation. Result . . . faster, simpler installation . . . real economy of time and labor.
- **Complete Swing Control** — Schlage's full rack and pinion gear mechanism gives complete control through the entire door swing. Teeth are pitched for greatest strength, permit 230° shaft rotation.

WRITE TODAY . . . for complete information on this modern Schlage closer . . . ask for Booklet 608-A12.

SCHLAGE

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San Francisco • New York • Vancouver, Canada
Write to Schlage Lock Company, San Francisco

prepared by the Association of Consulting Engineers has been incorporated in these documents.

An announcement was made that the annual dinner of the Association has been scheduled for May 24, 1956, in Montreal, in conjunction with the convention of the Engineering Institute of Canada. Hon. Lionel Chevrier, president of the St. Lawrence Seaway Authority, will be the speaker.

PARKIN ARTICLE CALLS FOR 'HUMAN AND BEAUTIFUL' CITY

An article in the publication *Saturday Night* by John C. Parkin of the Toronto architectural firm of John B. Parkin Associates decries the architectural "anarchy" of Canada's current construction boom and calls on architects to lead the way to "an architecture which is mature, enlightened and above all, an expression in physical terms of the highest aspirations as well as of the dignity of man himself."

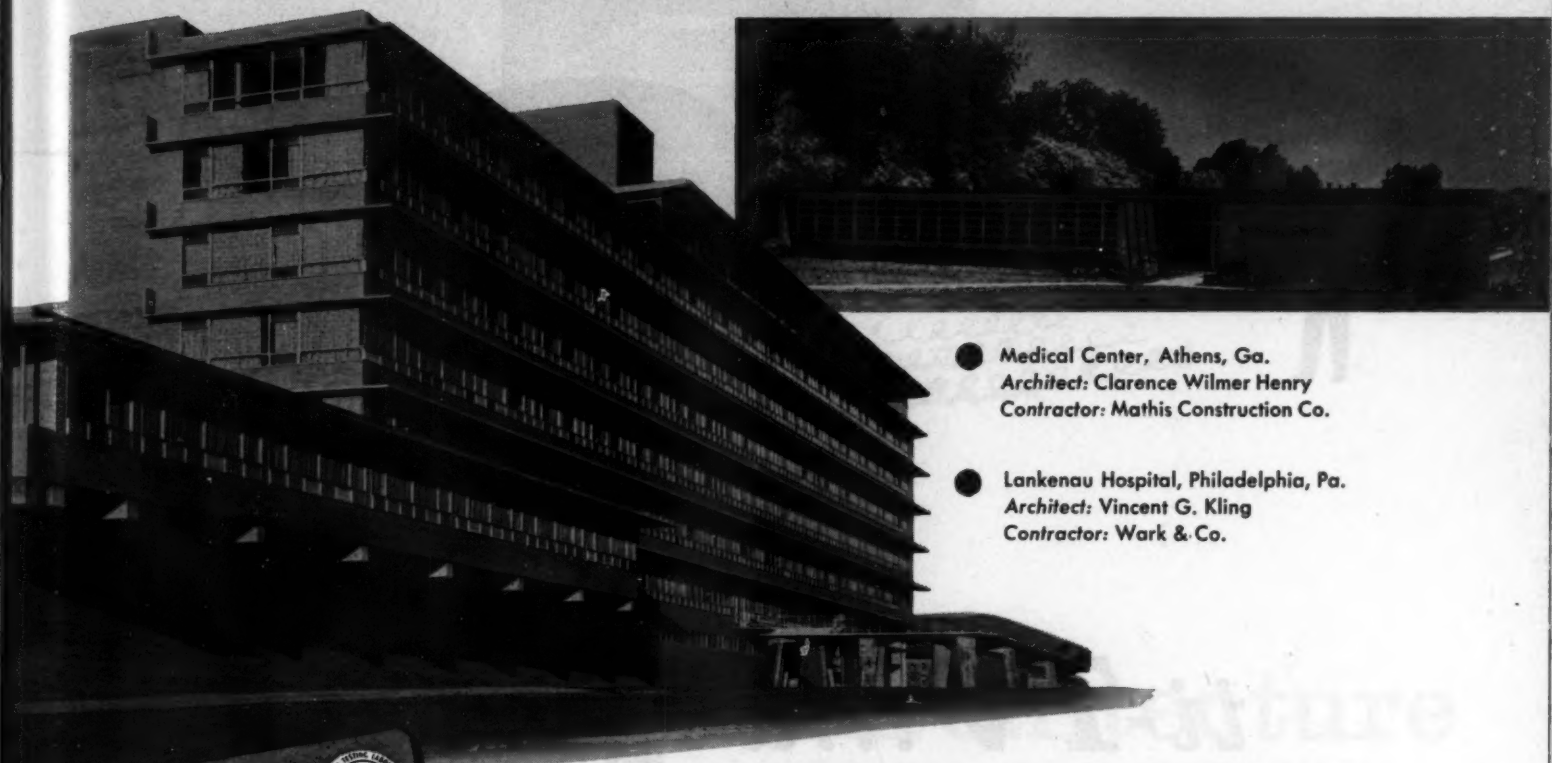
Except for "mopping-up" operations, Mr. Parkin believes, the battle between modern and traditional architecture has been won; but he adds, "Qualitatively . . . the battle for good, modern architecture is only beginning."

The present anarchic state of architecture Mr. Parkin attributes partly to the loss of the discipline imposed by the classic rules of architecture. And he asks: "Why cannot our generation make our cities more human and more beautiful?" Designing beautiful buildings in isolation, he warns, is futile when they are surrounded by badly designed and constructed cities. And the human scale in the civic landscape must not be sacrificed to the automobile: "Human values are still the most important ones in the planning of our towns and cities."

"There comes a time in every architect's life," says Mr. Parkin, "when the designing of isolated buildings must surely fill him with a sense of his own

(Continued on page 44)

Large city HOSPITAL or community MEDICAL CENTER



● Medical Center, Athens, Ga.
Architect: Clarence Wilmer Henry
Contractor: Mathis Construction Co.

● Lankenau Hospital, Philadelphia, Pa.
Architect: Vincent G. Kling
Contractor: Wark & Co.



Reduce MAINTENANCE EXPENSE
with Quality Approved

ALUMINUM WINDOWS

It doesn't make any difference whether you're building a large 320 bed hospital like the beautiful new Lankenau Hospital shown above or a small, community medical center, you help save important maintenance dollars when you insist on "Quality-Approved" aluminum windows.

Experience has clearly demonstrated that aluminum windows are the only practical, reasonably-priced windows that *never* require painting that cannot rust or rot, warp or swell that retain their trim, modern-looking appearance for the life of the building.

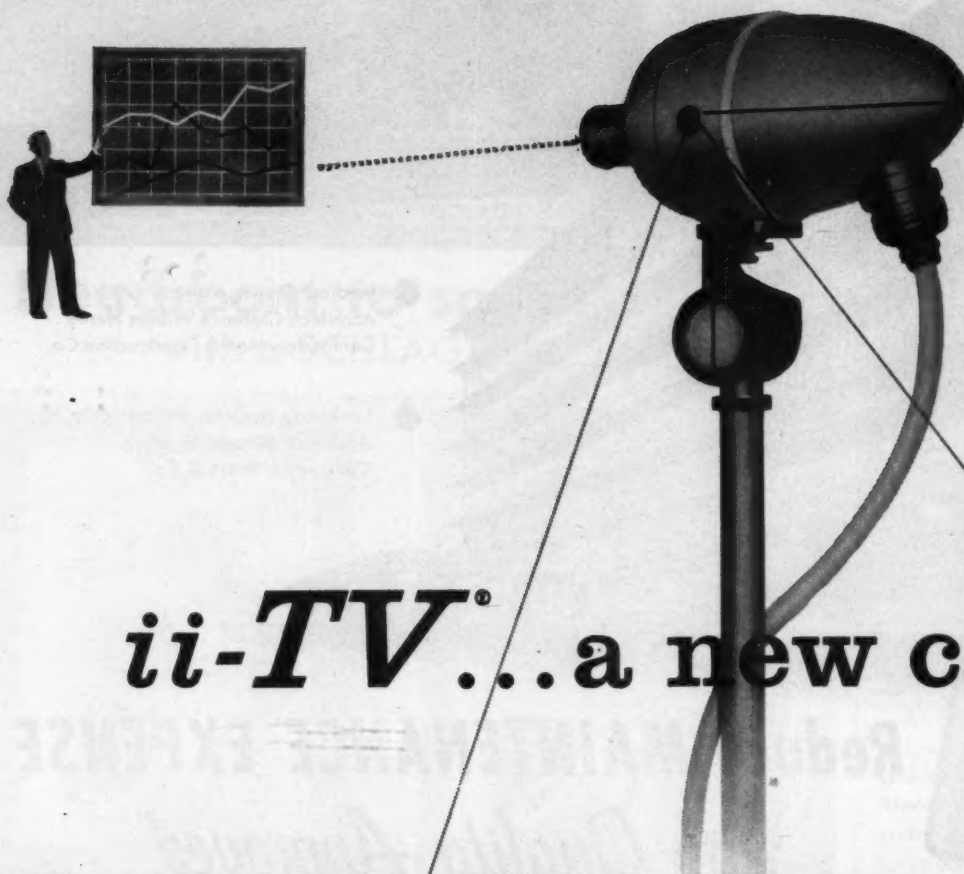
"Quality-Approved" aluminum windows are available through many manufacturers in sizes and styles (awning, casement, double-hung, projected and sliding) to fit any design treatment. Only those that carry the "Quality-Approved" Seal have been tested by the independent Pittsburgh Testing Laboratory and approved for quality of materials, construction, strength of sections, and minimum air infiltration.

For our latest Window Specifications Book consult any manufacturer listed below, see Sweet's (16a/ALU) or address Dept. AR-512.

Aluminum Window Manufacturers Association

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MEMBERS: Alcasco Products, Inc., Detroit, Mich. • The Wm. Bayley Co., Springfield, Ohio • Bourne Products, Inc., El Cajon, Calif. • Ceco Steel Products Corp. (Sterling Aluminum Window Division), Chicago, Ill. • Cupples Products Corp., St. Louis, Mo. • Duralite Window Corp., Knoxville, Tenn. • Fentron Industries, Inc., Seattle, Wash. • Michael Flynn Mfg. Co., Philadelphia, Pa. • General Bronze Corp., Garden City, N. Y. • Metal Arts Mfg. Co., Inc., Atlanta, Ga. • Reynolds Metals Co. (Parts Division), Louisville, Ky. • The F. C. Russell Co. (Aluminum Division), Bristol, Pa. • J. S. Thom Co., Philadelphia, Pa. • Universal Window Co., Berkeley, Calif. • Ware Laboratories, Inc., Miami, Fla. • Windaluma Corp., Kenil, N. J.



ii-TV... a new catalyst f

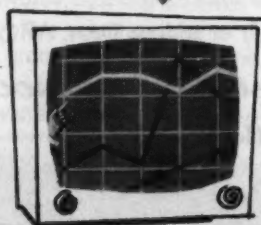
ii-TV is a dramatic new tool for America at work. For *ii-TV*—the GPL *industrial and institutional* closed-circuit television system—makes *visual* communication as simple as the telephone made *verbal* communication. From his own desk, a viewer can confer face to face with colleagues across the nation, study a production line in a factory, read a dial in an unattended substation, consult files deep in a sub-basement. One person can visually demonstrate a subject simultaneously to widely separated groups. Or he can keep a watchful eye on the gates and aisles of a huge warehouse. An engineer can look safely into the dangerous depths of a jet engine test cell or observe the workings of a whirling machine. GPL *ii-TV* makes all these things possible—and hundreds more besides.

But to the architect GPL *ii-TV* is much more than a tool. By removing the necessity for physical proximity of things which must be seen, *ii-TV* frees the architect from limitations that have existed since building began. Like the elevator and the telephone, *ii-TV* promises to be a catalyst

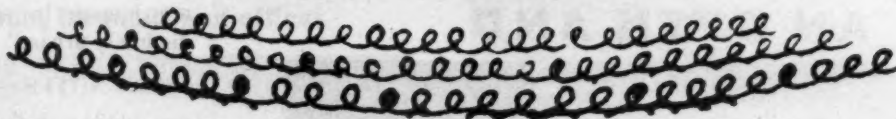
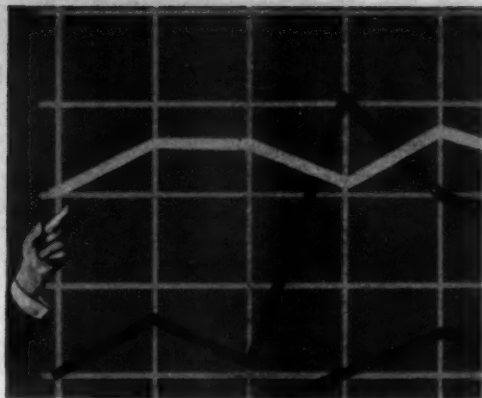
that will materially change concepts of building design.

New uses are turning up every day. Already a list of buildings where *ii-TV* has applications is practically a list of the places where people work: schools, hospitals, office buildings, factories, warehouses, department stores, prisons, power stations, laboratories, libraries, banks, supermarkets, railroad stations, airline terminals—everywhere that man wants to see something that is out of sight, or show something to a distant viewer, instantly and accurately.

Here is a double opportunity for the architect. Modern buildings need GPL *ii-TV*. By planning for it as an integral part of buildings on his boards, he can make sure that his clients will use it with maximum efficiency. At the same time it offers to the architect a new creative dimension. For with *ii-TV* he can rise above many of the physical limitations that have controlled building design since the days of pharaoh's palace and find new solutions to the eternal problem of all architecture—the arrangement of space in the service of man.



Our engineers will be glad to supply detailed information and to consult with you regarding inclusion of GPL *ii-TV* in your plans.



for America's Architecture



IN HOSPITALS and other institutions, GPL ii-TV enables nurses to watch individual patients and supervise whole wards. Guards can monitor gates, corridors and other key points.



IN LABORATORIES, mills, factories, GPL ii-TV permits economical monitoring of remote or dangerous processes. Above, observer follows operation within a test cell. Other uses include plant protection and instructing workers.



IN BANKS, offices, stores, GPL ii-TV permits highly efficient use of space by location of records off business floors and wherever maximum economy dictates. Above, a bank teller verifies customer's signature and balance.



IN SCHOOLS and colleges, with GPL ii-TV one teacher can reach many classes in many schools simultaneously. Above, over-life-size pictures are thrown on wide screen by GPL TV projector.



General Precision Laboratory Incorporated
Pleasantville, New York

A SUBSIDIARY OF GENERAL PRECISION EQUIPMENT CORPORATION





OPEN—
EMCO Model
400 wardrobes
save space with
their receding
doors. No
obstructions to
trip a child.

AN OPEN AND



CLOSED—
Notice the
under-door
ventilation space.
Handsome door
panels add to
beauty of architects'
functional interior.

SHUT CASE OF QUALITY!



Although they're more than 20 years old, the first classroom wardrobes we built are still giving safe, efficient service—just as the new models we show here will serve their schools for decades. Why?—Quality! The EMCO quality you simply can't buy in any other wardrobe.

Thousands of installations in the newest and finest schools in America prove that EMCO quality hardware, plus expert installation, plus safety features, efficient design, handsome appearance, and long-run economy are what architects and school executives want in classroom wardrobes.

If you too want the best—the finest quality wardrobes money can buy—specify EMCO, America's leading classroom wardrobes since 1932. Then, insist on your specification!

Write for free brochure

We will send you our free brochure about EMCO Wardrobes and the name of your nearest EMCO representative. This does not obligate you in any way.



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THE RECORD REPORTS NEWS FROM CANADA

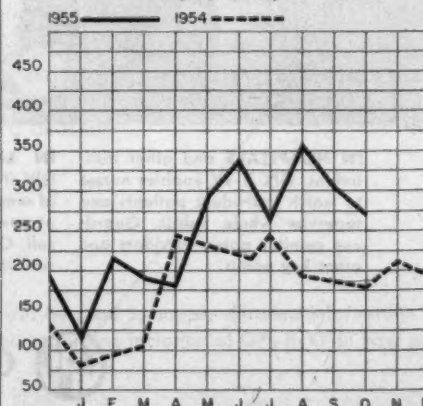
(Continued on page 40)

inadequacy to cope with the onrushing mass of mediocrity which moves in from every corner. It is, therefore, not enough simply to speak of new advances in building techniques. We must also consider how we can intelligently and esthetically relate building to building; or how we can create spaces between which are human in scale, attractive and distinctly urban."

NEWS NOTES

An additional Central Mortgage & Housing Corporation fellowship of \$1200 has been awarded to architect Arthur S. Henderson of Montreal for postgraduate study in community planning; eight other fellowships have already been awarded (AR, November 1955, p. 32). . . . The Ontario Association of Architects Council, holding its October meeting in Sudbury, entertained members of the newly formed Lakehead and Northern Ontario chapters; Lynden Y. McIntosh is chairman of the Lakehead Chapter. . . . The O.A.A. convention, it has been announced, is scheduled to be held at the Royal York Hotel, Toronto, February 17-18, 1956, and will have as its theme "Architecture and the Allied Arts." . . . The Province of Quebec Association of Architects held its annual reception for new members on November 7 in Montreal; certificates were presented to 29 new members. . . . In preparation for a new P.Q.A.A. headquarters building, that organization is currently negotiating with the city of Westmount to secure zoning changes on a possible site.

Contracts Awarded: Comparative Figures*
(in \$ million)



* Compiled by the editor and staff of The Building Reporter, from information collected by MacLean Building Reports

(More news on page 48)



St. Genevieve's School goes all the way with Sill-line Radiation

Today's most versatile form of perimeter heating is the dependable ally of designers and builders of churches, schools, hospitals and offices



Sill-line fits this structural condition with ease and grace

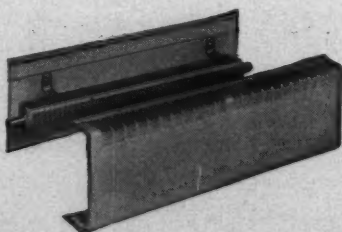
Architect, contractor and manufacturer team up through Nesbitt Sill-line Radiation to provide an indoor thermal environment conducive to comfortable living—work, play, study, and worship.

Sill-line is a perimeter type of high-capacity fin-and-tube radiation housed in a beautiful casing that fits any occasion and enhances the modern interior.

It will pay you to put Sill-line on your team.

Quick and easy to install!

Full one-piece back for true and rigid alignment; needed accessories to eliminate all cutting; 16-gauge enclosures; baked enamel finish, choice of colors. Five casing styles; seven lengths; eight heating elements, steam or hot water; approved ratings, 2.9 to 12.1 sq. ft. EDR.



teammates...

Sill-line's beauty and comfort are important aids to the enjoyment of daily life



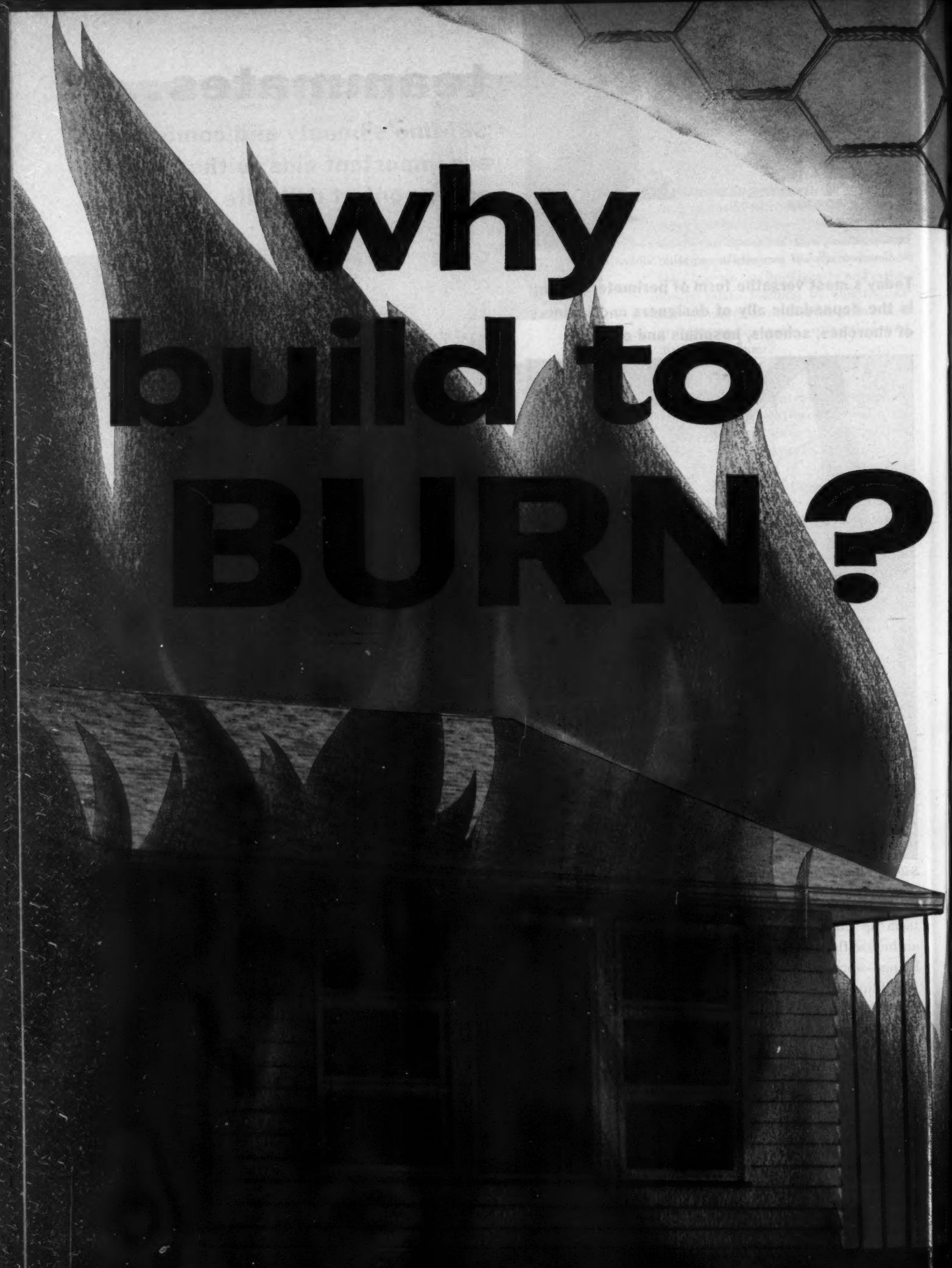
Only Nesbitt Sill-line Radiation with its full one-piece back could fit with economy this mullioned wall-skin construction

Send for Publication 102

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why build to BURN?

Fire s
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KEYMESH

GALVANIZED REINFORCING LATH

*with gypsum lath and plaster
multiplies fire resistance of buildings*

Fire safety costs so little.

Actually, walls and ceilings of gypsum lath and plaster, reinforced with Keymesh, cost less than most substitutes. Just see how they *multiply* fire safety.

Take open-web steel joist floors and concrete slabs with gypsum ceilings, for example. With $\frac{1}{2}$ inch of lightweight aggregate plaster, reinforced with Keymesh-like lath, a fire endurance limit of 3 hours and 28 minutes was obtained.*

Without reinforcement, the limit was 55 minutes. Keymesh adds 2 hours and 33 minutes to the fire endurance limit because it holds the plaster in place. When lath and plaster were omitted,

the fire endurance limit was only 7 minutes.

You'll find equally important protection when simple columns and beams of buildings are protected in this same way. It's so good that insurance companies cut their rates because of the greater fire safety. Actually, these lower rates quickly pay the cost of the lath and plaster.

Think of it. Greater fire safety. Acoustical properties, if you wish. Durability. Low maintenance. Beauty. Takes any decoration. Yet... this fire safe construction costs less than most substitutes. And it can slash insurance rates enough to quickly pay for the plastering.

*Actual Fire Test Shows Amazing Value of Keymesh-Type Plaster Reinforcement**

Ceiling of gypsum lath — KEYMESH-type reinforcement and $\frac{1}{2}$ " gypsum plaster with lightweight aggregate

Ceiling of gypsum lath and $\frac{1}{2}$ " lightweight aggregate gypsum plaster

Ceiling unprotected

Fire endurance limit

3 hrs. 28 min.

55 min.

7 min.

*See Building Materials and Structures Report 141, National Bureau of Standards: "Fire Endurance of Open-Web Steel-Joist Floors with Concrete Slabs and Gypsum Ceilings"

KEYSTONE STEEL & WIRE COMPANY

PEORIA 7, ILLINOIS

makers of Keymesh • Keybead • Keycorner • Keystone Welded Wire Fabric
Keystone Nails • Tie Wire • Keystone Non-Climbable and Ornamental Fence

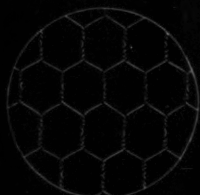
Use these three keys to stronger plaster

3 KEYS TO
STRONGER PLASTER

KEYMESH

KEYCORNER

KEYBEAD



KEYMESH lath for over-all reinforcement. Made of galvanized woven wire. Especially recommended for ceiling construction.



KEYCORNER strip lath, preformed to fit snugly in corners. Lies flat when applied to joints. Galvanized to prevent rust streaks.



KEYBEAD corner lath for outside corners. Open mesh fills solid with plaster. Galvanized nose, or solid zinc nose (Key Z Bead).

U. S. PREDICTS \$44 BILLION CONSTRUCTION PEAK IN 1956

If there is a moderate increase in all economic activity next year, new construction expenditures may reach a record-breaking \$44 billion. This would be five per cent above the \$42 billion peak indicated for 1955.

This is the joint forecast of the Building Materials and Construction Division of the Department of Commerce and the

Bureau of Labor Statistics of the Department of Labor.

Last month these two agencies issued their annual forecast in terms of money likely to be spent. It looked toward substantial gains in private nonresidential and public construction in 1956. New housing, it said, would be slightly below this year's high volume, but would continue at a relatively rapid pace.

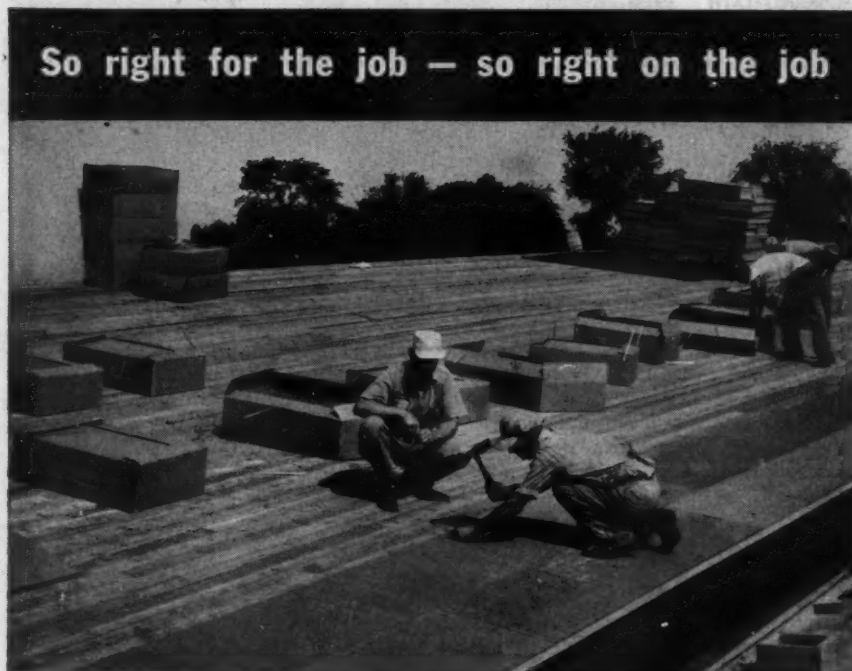
Industrial construction is expected to contribute the largest increase in the

nonresidential field along with stores, restaurants and garages. Each of these categories should increase by 17 per cent in expenditures, said the government forecast. Dollar outlays for miscellaneous nonhousing construction as a whole will go up 21 per cent while other types in this nonresidential category trail off to a "no change" for hospital and institutional construction.

Commerce and Labor look for a five per cent increase in educational construction in 1956, and a 15 per cent rise in religious building. These are all private work estimates.

In the public area, industrial is expected to be down 33 per cent; hospital and institutional, 17 per cent. All other public categories are due for an increase

(Continued on page 300)



FESCO ROOF DECK BOARD INSULATION

NOTE the true-fit corners — tight joints — scuff and dent resistant — a continuous shield against fire or moisture.

FIRE-PROOF — Flame-spread factor only 20.5, smoke contribution factor 0.

STRUCTURALLY STRONG — In compression tests Fesco Board withstood 140 lbs. p.s.i., and 55 lbs. p.s.i. of transverse pressure.

INSULATING VALUE — K-factor of .285 @ 0° F and .295 to .31 at 75° F.

LIGHTWEIGHT — Fesco Board units (1" x 24" x 48" or 1" x 24" x 36") weigh approximately .8 lbs. per square foot.

MOISTURE RESISTANCE DATA — Tests show only .5% absorption in two-hour period; 1.4% in 24 hour period and less than 1/4 of 1% expansion from 0 to 100% relative humidity.



made of Perlite, hermetically sealed to lock air in, lock moisture out

F. E. SCHUNDLER & CO., INC., 504 Railroad St., Joliet, Ill.

NEW CONSTRUCTION ACTIVITY IN CONTINENTAL U. S.

1955 and Outlook for 1956*
(in millions of dollars)

Type of Construction	1955	1956	Per Cent Change
TOTAL NEW CONSTRUCTION	42,000	44,000	+5
Private, total	30,000	30,850	+3
Residential (excluding farm)	16,345	16,200	-1
New dwelling units	14,765	14,300	-3
Additions and alterations	1,250	1,500	+20
Nonhousekeeping	330	400	+21
Nonresidential	7,630	8,700	+14
Industrial	2,400	2,800	+17
Warehouses, office and loft buildings	1,125	1,225	+9
Stores, restaurants and garages	1,920	2,250	+17
Religious	740	850	+15
Educational	500	525	+5
Hospital and institutional	350	350	0
Social and recreational	245	275	+12
Miscellaneous	350	425	+21
Farm construction	1,400	1,350	-4
Public utility	4,465	4,450	†
Railroad	340	400	+18
Telephone and telegraph	700	775	+11
Other public utility	3,425	3,275	-4
All other private	160	150	-6
Public total	12,000	13,150	+10
Residential	250	275	+10
Nonresidential	4,220	4,225	†
Industrial	705	475	-33
Educational	2,450	2,700	+10
Hospital and institutional	330	275	-17
Other nonresidential	735	775	+5
Military facilities	1,320	1,500	+14
Highway	4,100	4,600	+12
Sewer and water	1,080	1,200	+11
Public service enterprises	280	500	+79
Conservation and development	600	675	+13
All other public	150	175	+17

* Joint estimates of the Departments of Commerce and the Department of Labor.

† Change of less than one-half of 1 per cent.

Write for
this Catalog

The Story of The Scientifically-Built HOLLOW FLUSH DOOR...



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EXCLUSIVELY MORGAN

The
World's
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FOR EITHER INTERIOR OR EXTERIOR USE

TEE-COR DIVISION
MORGAN Company · Oshkosh, Wisconsin

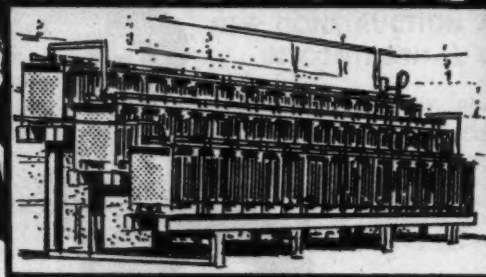
A-1-A FILE 19 E 12

FACTS ABOUT **Exide**[®]

EMERGENCY LIGHTING SYSTEMS

**WRITE IN EXIDE EMERGENCY LIGHTING PROTECTION
AND WRITE OUT DANGERS OF "SUDDEN DARKNESS"**

SUDDEN DARKNESS CAN QUICKLY RESULT IN INJURIES, PROPERTY DAMAGE, EVEN PANIC. THAT'S WHY ARCHITECTS FOR THE PENN VALLEY ELEMENTARY SCHOOL, LOWER MERION SCHOOL DISTRICT, ARDMORE, PA., WROTE EXIDE EMERGENCY LIGHTING PROTECTION INTO THEIR SPECIFICATIONS. NOW, IF NORMAL POWER IS INTERRUPTED, A BANK OF DEPENDABLE EXIDE BATTERIES FURNISHES POWER INSTANTLY AND AUTOMATICALLY FOR LIGHTS OF THE AUDITORIUM, GYMNASIUM, HALLS AND EXITS. REMEMBER, BY SPECIFYING EXIDE EMERGENCY LIGHTING FOR ANY BUILDING OF PUBLIC ASSEMBLY YOU WRITE OUT THE DANGERS OF SUDDEN DARKNESS.

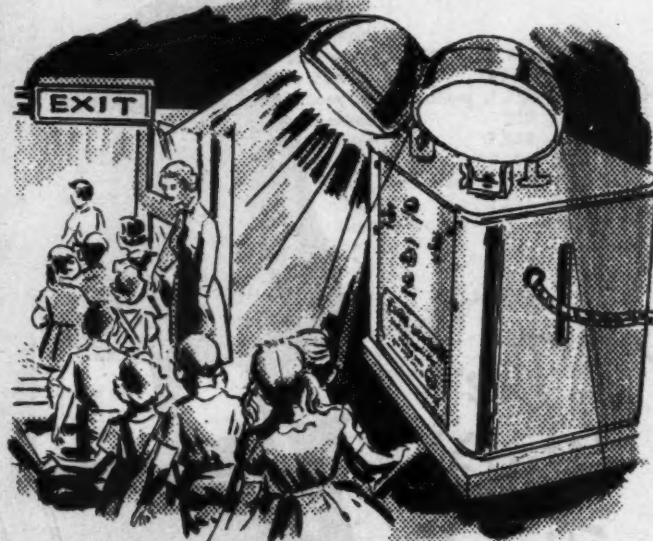


**SPOT CHECK OF FLOOR PLANS
FOR VITAL EXIDE EMERGENCY
LIGHTING LOCATIONS!**

LONG-LIFE EXIDE BATTERIES

HAVE BEEN USED FOR YEARS TO SUPPLY LOW-COST POWER FOR ALL TYPES OF EMERGENCY LIGHTING SYSTEMS, FOR 6-VOLT, 32-VOLT AND 115-VOLT INSTALLATIONS. FOR HELP IN DETERMINING WHAT TYPE OF SYSTEM TO INSTALL AND SPECIFICATIONS:

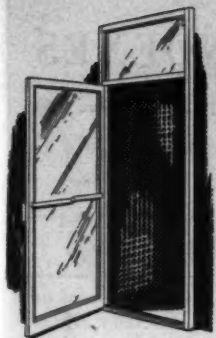
- 1 CALL AN EXIDE SALES ENGINEER FOR FULL DETAILS.
- 2 WRITE FOR FORM 4808 DESCRIBING LIGHTGUARDS.



LOW-COST EMERGENCY LIGHTING WITH EXIDE **LIGHTGUARDS**[®]

THESE UNITS ARE THE FIRST TO BE UL APPROVED AS EMERGENCY LIGHTING UNIT-EQUIPMENT. THEY ARE DESIGNED FOR PERMANENT INSTALLATION. OTHER TYPES, UL-APPROVED FOR AUXILIARY LIGHTING, PLUG INTO ANY 115-VOLT 60-CYCLE OUTLET, ELIMINATING EXTENSIVE REWIRING. USE THEM TO SUPPLEMENT AN EXISTING (PERHAPS INADEQUATE) SYSTEM--OR TO START NEW ONES.

Exide INDUSTRIAL DIVISION, The Electric Storage Battery Company, Philadelphia 2, Pa.



OPENED

HOW MANY TIMES A DAY

BY ATTACHING a mechanical counter, a restaurant owner found that his door was opened 2350 times per average day. That's more than 735,000 times a year excluding Sundays. So before you choose an entrance, think of the abuse it has to take.

Brasco Aluminum Entrances are made to take it with nary a groan, squeak or sag. Stiles and rails are not just welded .. they're thru-bolted AND welded for extra strength where you need it most. Also, our larger cross section areas provide for extreme rigidity.

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All this and high style too for the busiest part of the building. For full information about Brasco Entrances please address Dept. R 512.

500
1000
2000
3000

Continental Trailways
Terminal Building, Denver



Architect,
Alfred Watts Grant, A.I.A.



Brasco Entrances Installed
by Western Glass Company



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STORE FRONTS

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ENTRANCES

MANUFACTURING CO. HARVEY, ILLINOIS

Architectural Metal Products for more than 45 Years

THE RECORD REPORTS

CONSTRUCTION COST INDEXES

Labor and Materials

U. S. average 1926-1929 = 100

Presented by Clyde Shule, manager, Statistical and Research Division,
F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc., Inc.

NEW YORK

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel		Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel	
	Brick	Frame		Brick and Concr.	Brick and Steel	Brick	Frame		Brick and Concr.	Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1	158.0
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8	178.8	178.8
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8	177.5
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7	185.0
1951	273.2	271.3	263.7	265.2	262.2	212.8	214.6	204.2	202.8	205.0
1952	278.2	274.8	271.9	274.9	271.8	218.8	221.0	212.8	210.1	214.3
1953	281.3	277.2	281.0	286.0	282.0	223.3	224.6	221.3	221.8	223.0
1954	285.0	278.2	293.0	300.6	295.4	219.6	219.1	223.5	225.2	225.4
July 1955	297.4	290.2	304.9	313.0	308.2	226.2	225.8	230.4	234.1	234.2
Aug. 1955	298.0	290.6	305.6	314.0	308.7	226.6	226.2	230.9	234.1	234.2
Sept. 1955	298.0	290.6	305.6	314.0	308.7	226.6	226.2	230.9	234.1	234.2
	% increase over 1939					% increase over 1939				
Sept. 1955	141.3	137.4	133.8	135.4	137.3	162.6	172.2	142.8	140.3	147.3

ST. LOUIS

SAN FRANCISCO

1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6
1953	263.4	256.4	259.0	267.6	259.2	255.2	257.2	256.6	261.6	259.7
1954	266.6	260.2	263.7	273.3	266.2	257.4	249.2	264.1	272.5	267.2
July 1955	275.8	269.0	275.3	283.6	280.3	270.7	262.3	277.5	287.4	281.9
Aug. 1955	276.6	269.4	275.7	284.0	280.8	271.1	262.7	279.0	288.1	284.7
Sept. 1955	276.6	269.4	275.7	284.0	280.8	271.5	263.1	279.5	288.5	285.1
	% increase over 1939					% increase over 1939				
Sept. 1955	151.0	151.8	132.3	137.1	135.0	157.1	165.0	138.1	136.7	144.7

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95
(both indexes must be for the same type of construction).
Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

BORDEN

First IN FLOOR GRATING

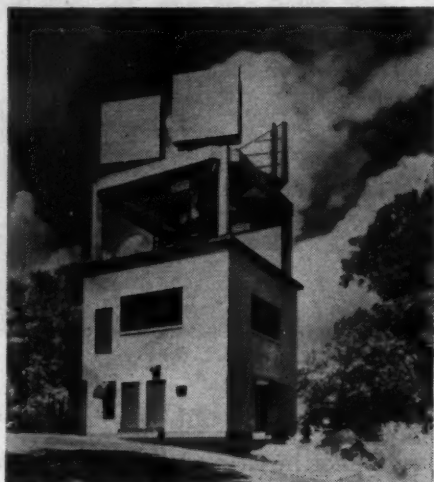
USES OF GRATING . . . WHERE ONLY BORDEN QUALITY WOULD DO . . .

Here on this page are a few of the many new or unusual uses for grating being pioneered every day. Each is an exacting job where only standards of quality equal to BORDEN'S will do.

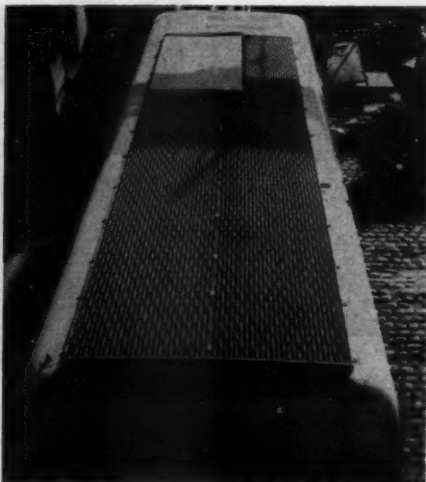
And remember . . . BORDEN manufactures every type grating in ferrous and non-ferrous metals.



GRATING PLATFORMS for Scales . . . Will not collect snow, ice or become waterlogged; need balancing much less frequently; require no maintenance, yet bring you years of reliable service.



Television relay stations and radar stations that gird our continent have adopted grating as standard outside platform material. It will not collect snow as most other platforms will.



Wherever this Color Television truck goes, whatever the assignment of the reporters who must mount its roof, Borden riveted *serra-crimp* grating will mean surefooting—even in ice or snow.



Only the finest precision manufacturing would satisfy the architect who designed this door. BORDEN is recognized as a leader in quality, custom-manufactured gratings.

BORDEN METAL PRODUCTS CO.

Gentlemen:

Please send me BORDEN Catalog

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TITLE

COMPANY NAME

ST. AND NO.

CITY AND STATE

See our Catalog in Sweets

Write for complete
information on BORDEN
All/Weld, Pressure Locked, and Riveted Floor
Gratings in this FREE 8-page catalog

BORDEN METAL PRODUCTS CO.

822 GREEN LANE Elizabeth 2-6410 ELIZABETH, N. J.
SOUTHERN PLANT—LEEDS, ALA. — MAIN PLANT—UNION, N. J.



SAVES 50% ON CLEAN

THE FIRST TOTALLY NEW FILTER D

★ This is not an idle claim . . . it's a fact . . .
**PROVEN UNDER ACTUAL INSTALLATION
AND MAINTENANCE CONDITIONS.**

Make no mistake about it . . . no matter how
small your filter requirements . . . or how large,
here is a completely new air filter development
that can absolutely cut your clean air maintenance costs in half.

Evans

NO HEAVY TENSION OIL

Evans filters do not have a messy, sticky type of adhesive that is filthy to handle and difficult to clean. It is unnecessary and is forbidden in the use of Evans filters.

CLEAN WITH TAP WATER

Evans filters can be cleaned clean in minutes with nothing but tap water sprayed through an ordinary garden hose nozzle. They require no expensive room. No caustic cleaning solutions or agents. This eliminates all danger in the cleaning of Evans filters.

Lifelong

GIVES *Lifetime* SERVICE

AIR MAINTENANCE COSTS!

R DEVELOPMENT . . . IN 25 YEARS

LIGHT WEIGHT CUT LABOR COSTS

Evans filters are all aluminum. Light to handle, to carry, to pick up. In spite of airtight fitting frames, Evans filters pull quickly and easily in and out of the frames. Take much less effort, less labor to handle. No latches . . . or lugs required.

REMEMBER . . . Initial costs for air cleaning equipment are not the big factors or controlling factors in the cost for clean air.

IT'S OPERATING COSTS THAT YOU MUST LIVE WITH . . . THAT YOU MUST CONTROL. EVANS FILTERS GIVE YOU THAT CONTROL. MAKE IT POSSIBLE FOR YOU TO SAVE 50% ON CLEAN AIR MAINTENANCE COSTS.

- ALL ALUMINUM
- EVERY PART PRECISION MADE
- GIVES LIFETIME SERVICE
- HOLD UP TO 200% MORE DUST AND LINT . . . WITHOUT HARMFUL RESTRICTION TO AIRFLOW

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THE GEORGE EVANS CORPORATION • MOLINE, ILL.

Gentlemen: I wish to know how to cut my clean air maintenance costs in half with a filter that gives lifetime service. Please send me new illustrated catalog.

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Company.....
Address.....
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AIR FILTERS



BENJAMIN HENRY LATROBE

Benjamin Henry Latrobe. By Talbot Hamlin. Oxford University Press (New York) 1955. 633 pp, illus. \$15.00

SOCIETY AND BUSINESS do not willingly welcome creative genius with open arms. This is particularly true in an infant nation, trying fervently to establish its own culture on equal footing with the ancient civilizations on the continent.

Benjamin Henry Latrobe was such a genius. His life, as revealed in Talbot Hamlin's biography, was one of great creative brilliance underscored with discouragement and tragedy.

Latrobe was born in England in 1764, the son of a Moravian minister and a Pennsylvania girl educated in England. His education was continental (the Moravian academy in Saxony, the University of Leipzig and the Prussian Army) and his professional training was excellent (he was apprenticed to John Smeaton and Samuel Pepys Cockerell). He practiced for four years in London, where he was in the very center of avant garde culture, and was destined to become an English architect equal to Soane or Nash. The first tragedy to beset Latrobe—the death of his wife in childbirth—sent him away from London to America.

He landed in Norfolk, Virginia, a town then barren of architecture or culture. His personal charm and seemingly unlimited talents admitted him at once into the society of the Jeffersons, the Madisons, Albert Gallatin, Aaron Burr and Robert Goodhue Harper. Records of his early years in America show him sketching on George Washington's veranda, writing poetry and plays, designing theaters and entertaining with his music. His architectural and engineering talents were almost immediately employed in designing a house for William Pennock in Norfolk and the Richmond prison. In working on the prison he collaborated closely with Jefferson, who was at that time seeking new and more humanitarian methods of penal punishment. Unfortunately all of their plans were not put to use, for the original, unused design is quite modern in concept and quite organized in design.

Latrobe was often afflicted with what he called "hemispheralia", which would launch him into deep moods of de-

pression and lethargy. Such attacks left him unable to cope with present situations and surroundings and eager to move on to new territory and societies.

After his arrival in America the first such move took him from Norfolk to Philadelphia and to the peak of his professional and personal life. In Philadelphia he met and married Mary Elizabeth Hazelhurst. In the words of the author, "It is impossible to stress too strongly the importance of this event and its consequences. The pair seem to have been ideally fitted for each other. Mary was the architect's constant helper, his constant inspiration. . . ."

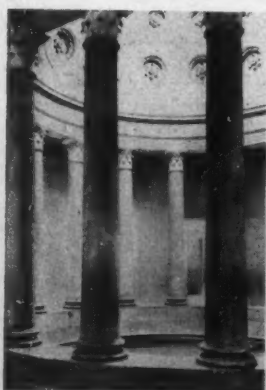
Of his practice in Philadelphia, Hamlin says, "The idea that full architectural services were an unnecessary luxury often bedeviled his later practice; it was but one of the hardships faced by a man ahead of his time who was giving his life to the task of molding the world more closely to his ideals and making it aware of the potentialities for better and more efficient living and working that it could possess by merely, so to speak, stretching out its hand. And Philadelphia brought these paradoxes particularly to the front; for, though without a doubt it was the cultural capital of the country, it was a town permeated with a kind of traditional smugness."

After the completion of the Greek revival Bank of Philadelphia Latrobe maintained, "I have changed the taste of a whole city. My very follies and whims have been mimicked, and yet there is not a single instance in which I have been consulted in which some carpenter has not counteracted me."

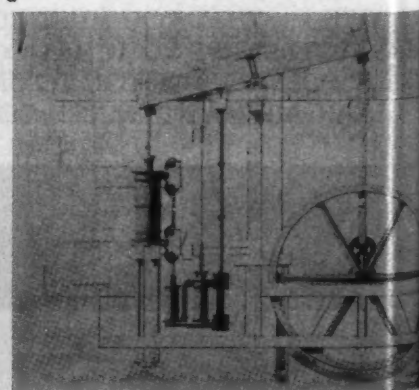
It was also in Philadelphia that Latrobe met Nicholas Roosevelt (who later became his son-in-law) and Robert Fulton, with whom he pioneered in the introduction of steamboats on the Ohio and Mississippi. This partnership eventually brought great financial, spiritual and professional ruin to Latrobe.

Latrobe was a brilliant, creative man—but he was no business man. Hamlin states that "During these years, professionally and personally so bright, another note begins to sound, a dull clang, resounding more and more menacingly, building up gradually to become almost the sound of doom

(Continued on page 60)



a. Latrobe—portrait by C. W. Peale
b. Senate Rotunda
c. Roman Catholic Cathedral, Baltimore
d. Engine for Navy Yard, Washington



good living
deserves good light



GLAZED WITH
LUSTRAGLASS
ALWAYS WHITER GLASS

DARLINGTON APARTMENTS
Atlanta, Georgia

ARCHITECTS, CONTRACTORS, OWNERS
Long Construction Company, Atlanta

GLAZIER
Acme Glazing Company

GLASS FURNISHED BY
Warren Company, Atlanta

Today's residential and non-residential designers are giving increasing attention to more and better natural lighting—and American's LUSTRAGLASS is being specified because it transmits more daylight. LUSTRAGLASS has extraordinary flatness and freedom from distorting waviness. Yet, with all its distinct advantages, LUSTRAGLASS costs no more than ordinary window glass.



AMERICAN
WINDOW *Glass* COMPANY

Specialists in the manufacture of sheet glass since 1899.
9 West Park Way • Pittsburgh, Pa.

YALE^{*} introduces



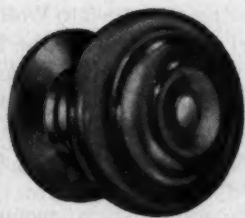
THE YALE 5400 CYLINDRICAL LOCKSET

the newest conception in locks

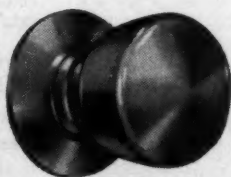
Created for both modern and traditional architecture, this new lock fills the requirements for low-cost installations and modern styling in today's heavy construction.

As an architect, this is a direct invitation to you to be informed of the newest creation in builders' hardware. For full details, write to The Yale & Towne Manufacturing Co., Lock & Hardware Division, White Plains, N. Y.

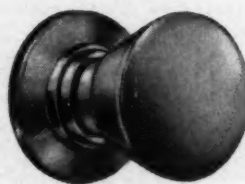
4 EXPRESSIVE NEW KNOB DESIGNS



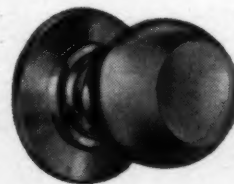
BEDFORD cast knob



LITCHFIELD laminated wrought knob (available also in cast metal as GREENFIELD design)



ESSEX cast knob



CLASSIC cast knob

AVAILABLE IN STAINLESS STEEL AND ALSO BRASS, BRONZE, ALUMINUM, CHROME.

*YALE Reg. U. S. Pat. Off.

YALE & TOWNE

MORE Refrigeration



IN LESS SPACE

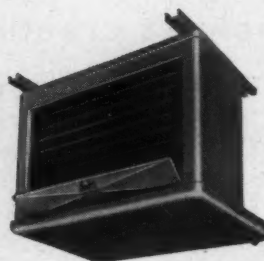
NOW POSSIBLE WITH **BUSH INNER-FIN®** UNITS

Inner-Fin coil construction, patented design feature available only in BUSH units, means more cooling with less bulk. And there's a BUSH unit to meet your every refrigeration requirement: high temperature, low temperature, floor mounted or ceiling hung models in a wide range of capacities.

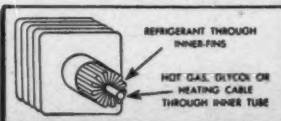
What's more, you'll find the BUSH sales engineer a thoroughly trained specialist who can be most helpful when you're specifying refrigeration equipment or engineering an installation. Make a note to have him stop in.

Typical Bush Inner-Fin Units

'JF' JET-FLO UNIT COOLERS (Above) — Stainless steel cases, completely non-ferrous construction. Durable, gleaming surfaces that stay hospital-clean. Units can be wall or ceiling mounted ... air direction either suck-through or blow-through. Ideal for reach-in or walk-in refrigeration boxes ... wherever space is limited and cleanliness vital.



LOW TEMPERATURE REFRIGERATION UNITS — **'ED'** Electric Defrost Unit Coolers (right) feature specially designed heater cable contained within the inner tube of Inner-Fin coil ... assuring trouble-free defrosting from the inside. **'HG'** Hot Gas Defrost Unit Coolers utilize heat of compression for defrosting, with hot gas circulated within the inner tube. **'GD'** Glycol Defrost Product Coolers, for larger installations, make use of heated glycol as defrost medium ... are available in both floor and ceiling models. Low Temperature Catalog No. 835 contains complete specifications.



BUSH INNER-FIN® patented Fundamental principle is the arrangement of longitudinal fins inside a tube in conjunction with outer fins. Because Inner-Fin provides greater surface area and smaller hydraulic radius, transfer of heat is more rapid. Consequently, smaller coils are possible and units incorporating Inner-Fin coils can be more compactly designed.

Write for complete information on Bush Inner-Fin refrigeration and air conditioning products ... also standard line of Unit Coolers, Plasti-Coolers and Coils ... most complete in the industry.

BUSH

BUSH MANUFACTURING COMPANY
WEST HARTFORD 10, CONNECTICUT

RIVERSIDE • CALIFORNIA

REQUIRED READING

(Continued from page 56)

itself. It is the noise of want of money; it is the sound of creditors and of legal processes; it is the clangor of a sort of financial fate which dogged Latrobe, threatened his very freedom. It never ceased to toll through the rest of his life." The roots of Latrobe's business difficulties were in generosity and friendship as much as in a lack of financial imagination or in financial ineptitude.

In addition to Latrobe's own business difficulties — all of American business was floating on a sea of paper — mainly personal notes, endorsed by people of supposed property. "It was a house of cards on a slippery table, and any change of financial atmosphere or international policy might be the breath that sent the whole to ruin."

Latrobe's greatest work was for the United States Government — he considered himself a public servant. The work he is most noted for — our National Capitol — was the biggest and in many ways the most successful of Latrobe's works. He was not the originator of this work — James Hoban was — but "esthetically the entire structure is his." Aside from the great amount of work and energy devoted to the creation of the building with its corn-cob and tobacco leaf capitals — its beautiful rotunda and elegant decorations, the personal bickering and financial losses made the project exhausting. The straw that finally broke the camel's back came with the petty tyranny of an official of the Monroe Administration and the project was left to Charles Bulfinch.

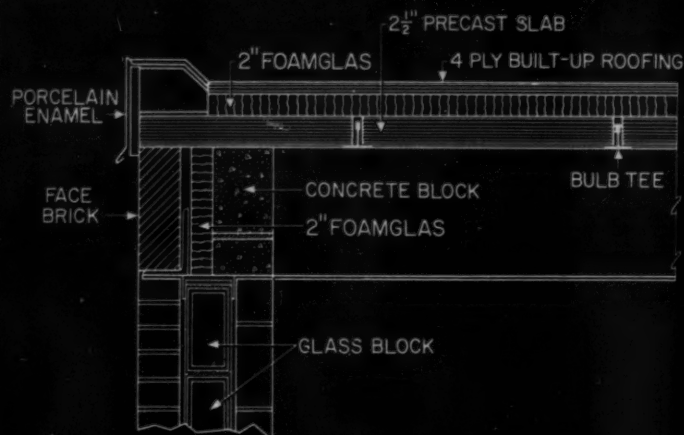
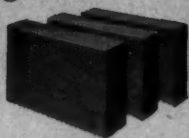
After an unsuccessful two years in Pittsburgh where he was beggared by his enthusiasm for steamboats and badly let down on the project by Robert Fulton, Latrobe returned to Washington for a brief spell to rebuild the British-bombed capitol. He went bankrupt in 1817 and died of yellow fever three years later in New Orleans where he was completing plans for the great municipal waterworks.

This biography is a monumental work. It tells of "a tragedy of a man devoted to the ideals of imaginative planning in a country where mere improvisation was still the rule." Mr. Hamlin has meticulously sifted through the many priceless papers made available by Latrobe's descendants, and come up with a biography rich in detail, and

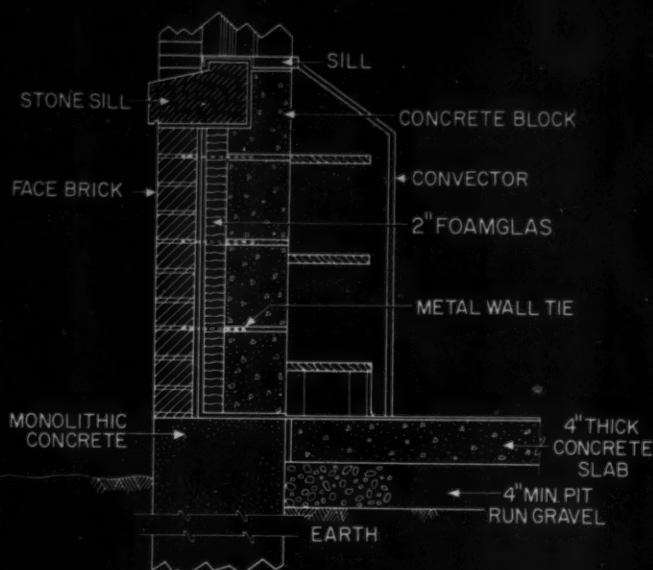
(Continued on page 319)

FOAMGLAS®

the cellular, stay-dry insulation



TYPICAL ROOF SECTION



TYPICAL CORE WALL SECTION

Architect: Thomas A. McConnaughey, Muncie, Ind.
General Contractor: Glaser & Glaser Inc., Muncie, Ind.
Roofing Contractor: Adams Roofing & Insulating Co., Inc., Muncie, Ind.

At new Parkside School, Hartford City, Indiana . . .

FOAMGLAS roof and wall insulation makes electric heating system practical

The new Parkside School at Hartford City, Indiana was designed to take full advantage of the low installation cost and the operating economies possible with electric heating. According to architect T. A. McConnaughey, *stay-dry* FOAMGLAS roof and wall insulation was a major factor in making that type of heating system practical at Parkside. He says:

"Constantly effective building insulation is a 'must' for maximum operating efficiency of an electric heating system. We picked FOAMGLAS because it can't absorb the moisture that destroys the effectiveness of ordinary insulations. We can depend on it to retain its original insulating value continuously. Once installed, we can forget it."

Mr. McConnaughey concludes, "FOAMGLAS also gave us these construction bonuses: Its strength and rigidity prevent it from sagging or buckling after installation. Its fireproofness means added building safety. The ease with which it can be fabricated made it possible for us to imbed electric conduits in the under surface of the roof insulation . . . without impairing performance."

Parkside School is one of hundreds across the country where FOAMGLAS furnishes *dependable, long-lasting* insulating protection . . . not only for roofs and walls, but for ceilings, floors, piping and equipment as well. Why not find out today how *you* can best use this unique cellular glass insulation in your

designs for schools and other insulated buildings. Write us for a sample and detailed literature.

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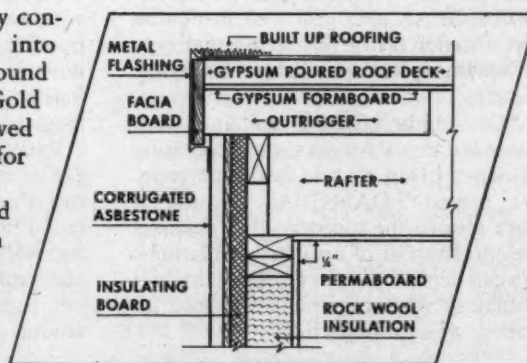
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Originally the designers had planned conventional masonry construction for this new plant office. When they looked into rock-like Gold Bond CORRUGATED ASBESTONE "400," they found unusually high savings were possible. Used for siding with Gold Bond Insulating Materials, CORRUGATED ASBESTONE has proved itself an excellent fireproof, moisture-proof, lifetime covering for all types of buildings. See diagram at right.

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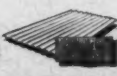
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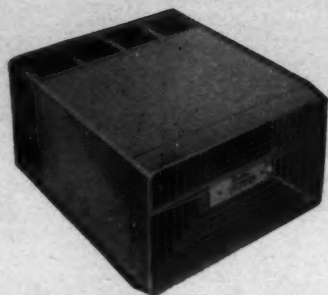
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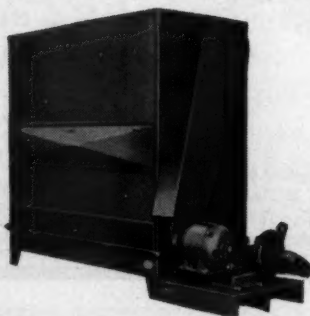
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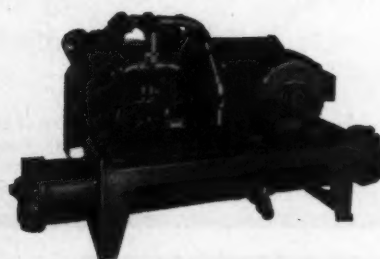
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Air handling units, cooling towers, and evaporative condensers



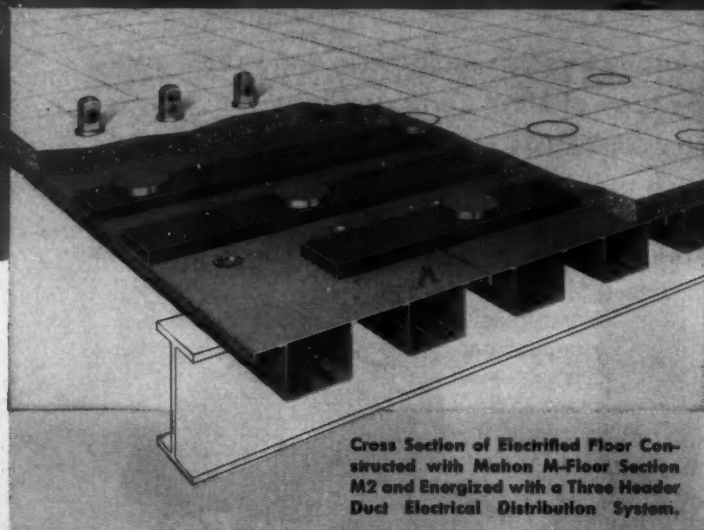
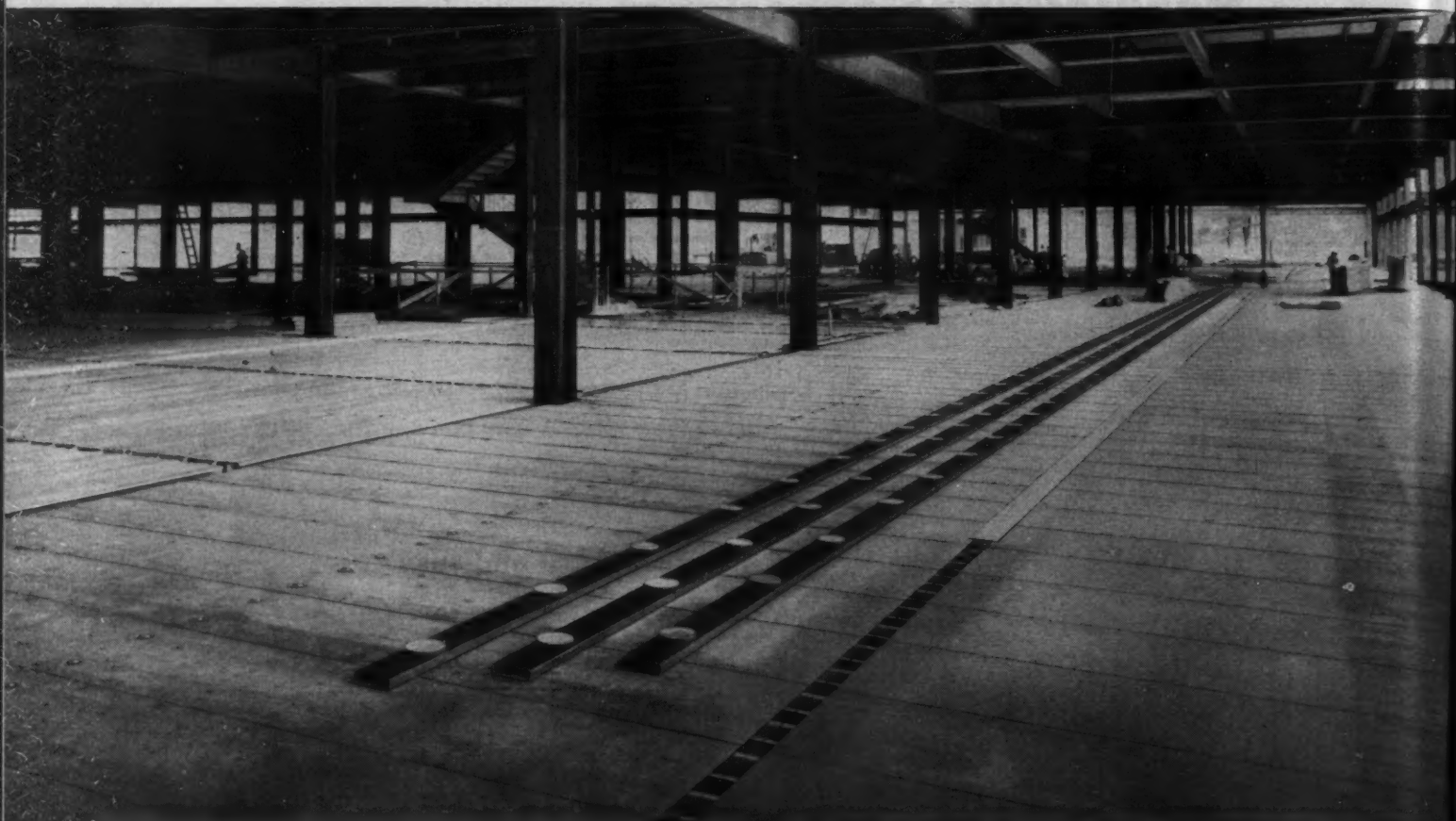
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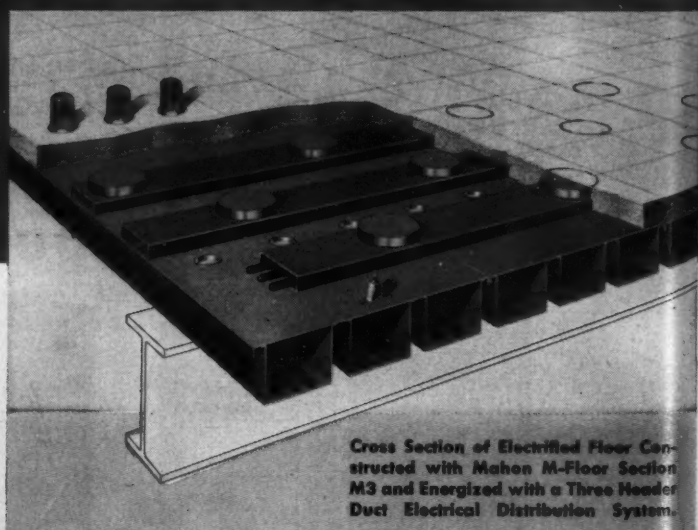
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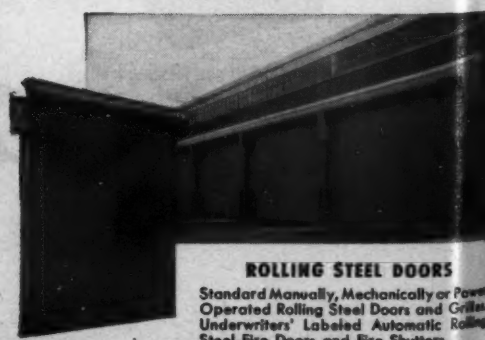
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APPROVED by the Underwriters' Laboratories, Inc. for use as Electrical Distribution Raceways in combination with transverse Electrical Header Ducts and Fittings produced by either National Electric Products Corporation, General Electric Company, or Walker Brothers.

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BELOW: Among the many features of the lobby are the clerestory illumination, the unobtrusive air diffusers, and the bas relief mural carved in wood by Buck Winn, Jr.

Architects: Prinz and Brooks

General Contractor: Burgher Construction Co.

The New Look In

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- Air Conditioning

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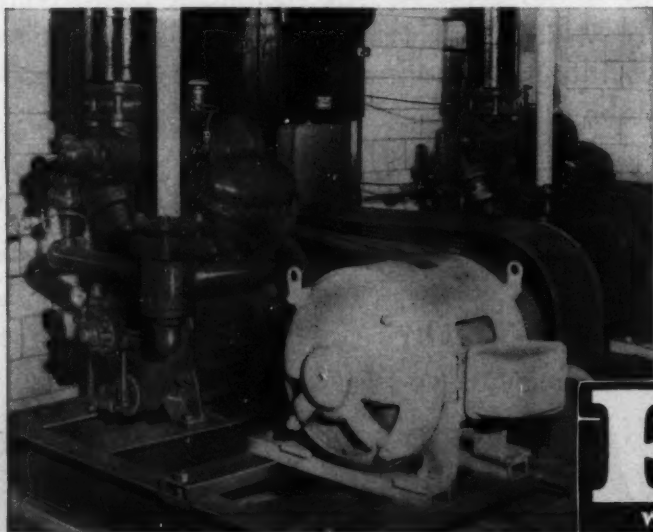
The entire structure, including the lobby, conference and accounting



areas, community room and lounge, is air conditioned with two Frick "ECLIPSE" compressors. Each refrigerating machine is driven by a motor of 40 horsepower.

When you want the ultimate in quality and dependability . . . whether for air conditioning, refrigeration, ice making or quick freezing . . . specify FRICK.

Get quotations now on the equipment you need: Branch Offices and Distributors in principal cities, the world over.



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ONLY GOLD SEAL GIVES YOU THE RIGHT TILE FOR EVERY FLOOR *on-grade...*

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*Install these products with amazing new Gold Seal "Three-Twenty"† adhesive. Satisfaction guaranteed or your money back. For further information, write Architects' Service Dept., Congoleum-Nairn Inc., Kearny, N. J.

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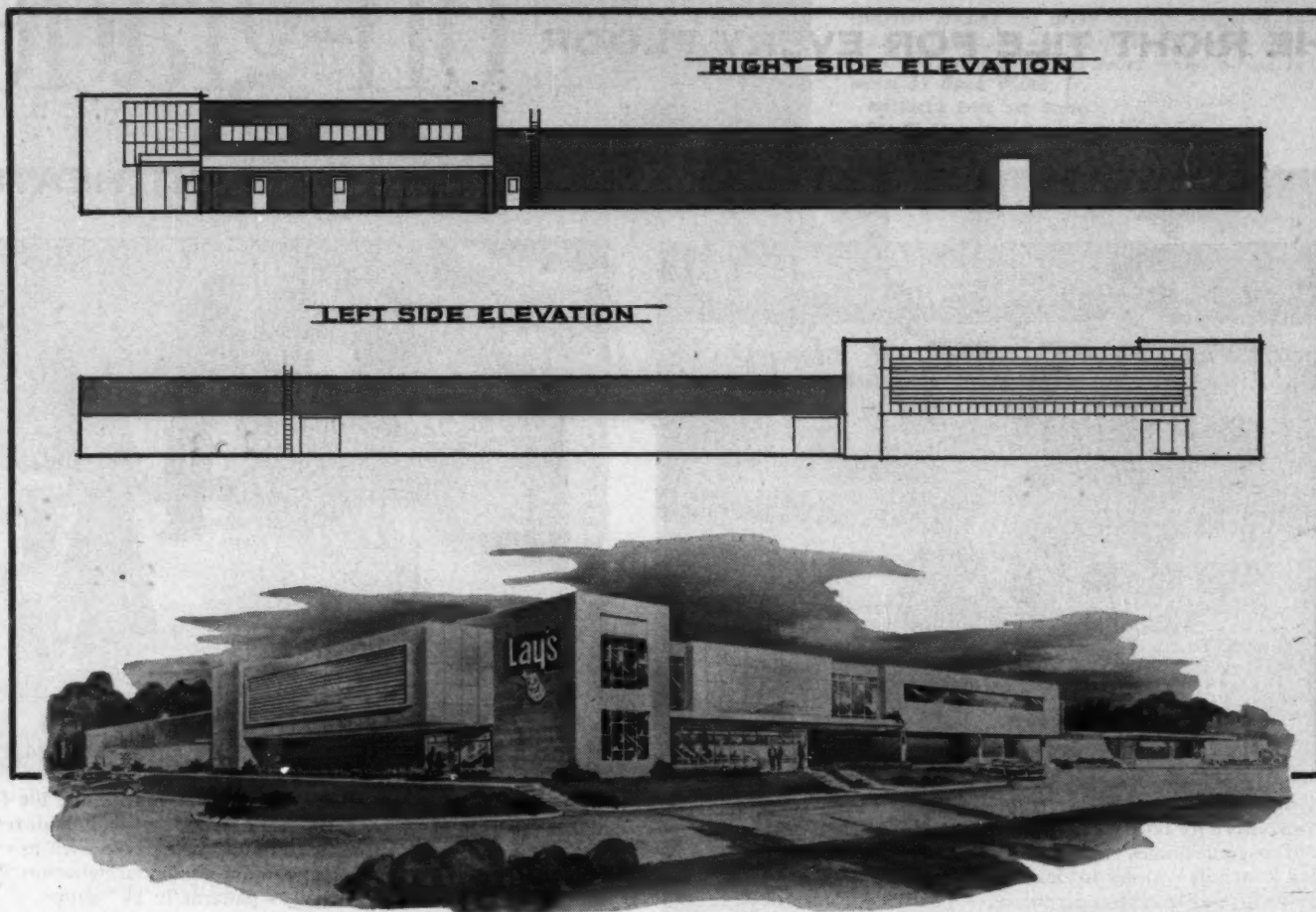
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Specify Alodized Architectural Aluminum for greatest protection and least maintenance

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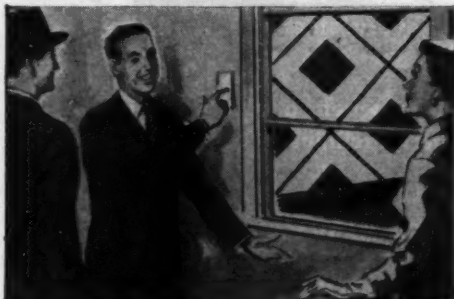
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Delco-matic means safety after dark, comfort and convenience day and night in any weather.

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Delco-matic

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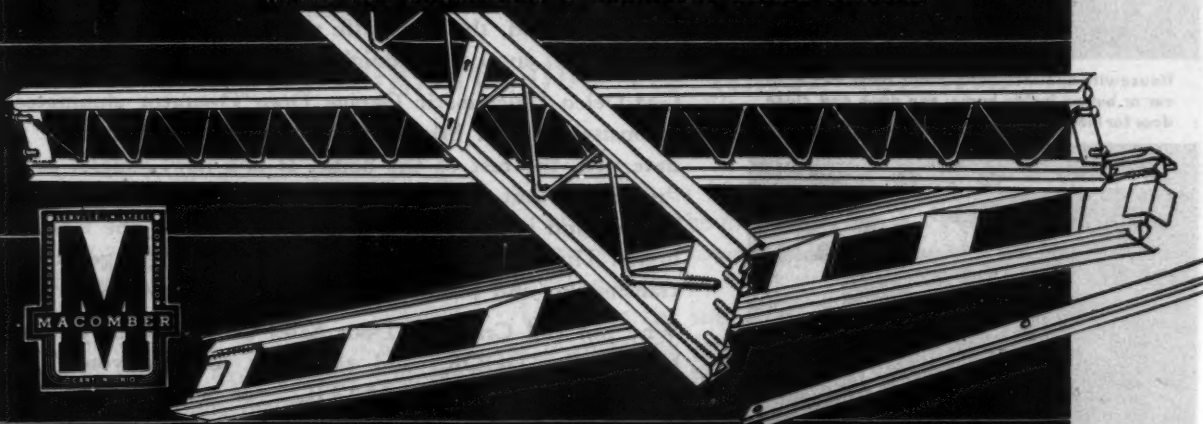
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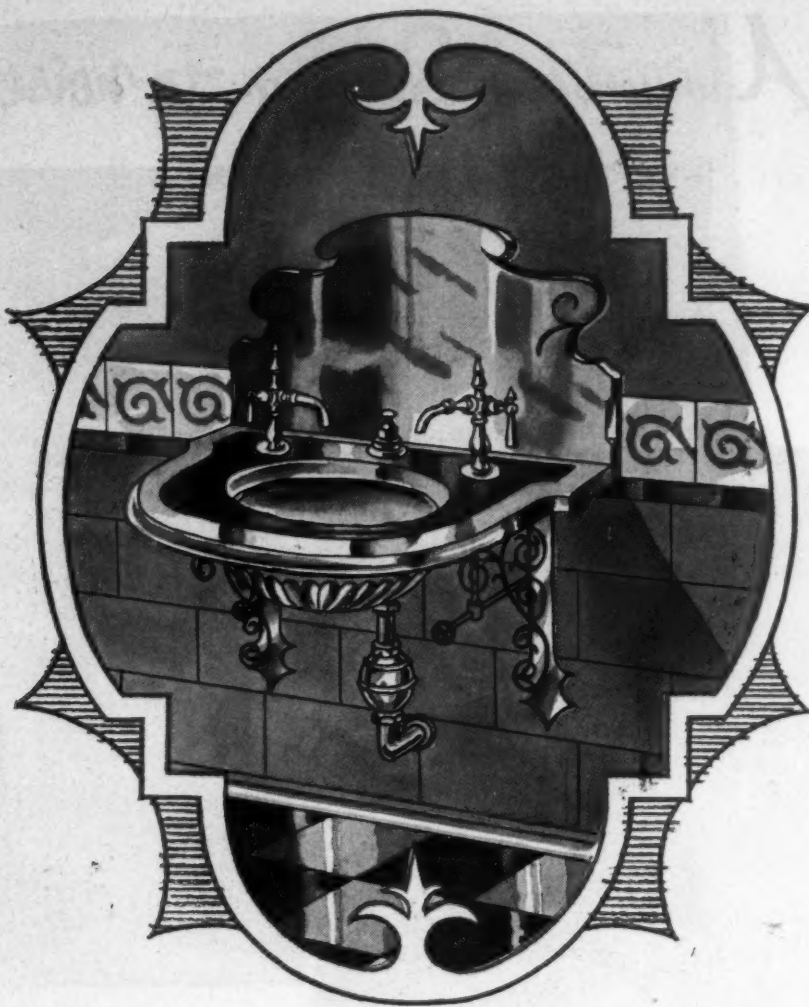
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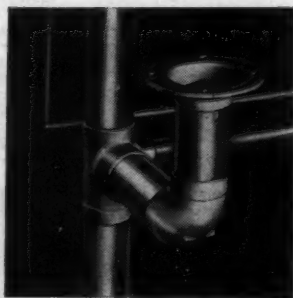
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Permacoustic decorative acoustical units

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250	.35	.64
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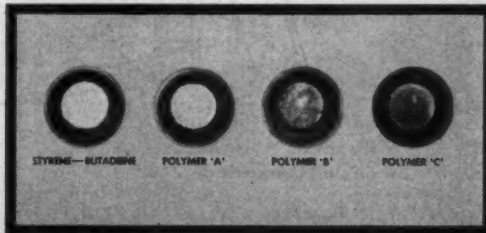
ual chalking ... a time proven method that keeps surfaces clean and fresh a lot longer.

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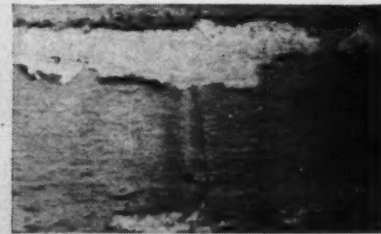
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NO SUCH FAILURE! Properly prepared surfaces protected with latex paint won't blister and peel like this. They chalk gradually, are ready for repainting with a minimum of preparation.

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Exterior fire stair of 1/4" Polished Wire in Hellenic Community Center, Savannah, Ga. Glazier: Pittsburgh Plate Glass.



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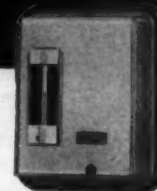
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*Roanoke Public Library, Roanoke, Virginia. Frantz & Addikson, architects, Roanoke; Wiley & Wilson, mechanical engineers, Lynchburg, Virginia; R. H. Lowe, air conditioning contractor, Roanoke.

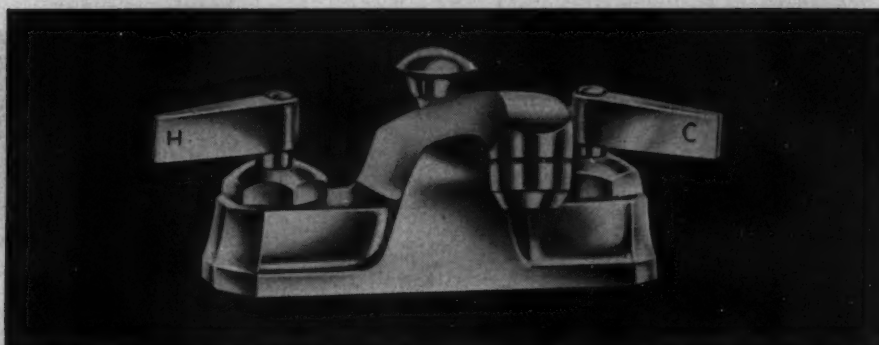
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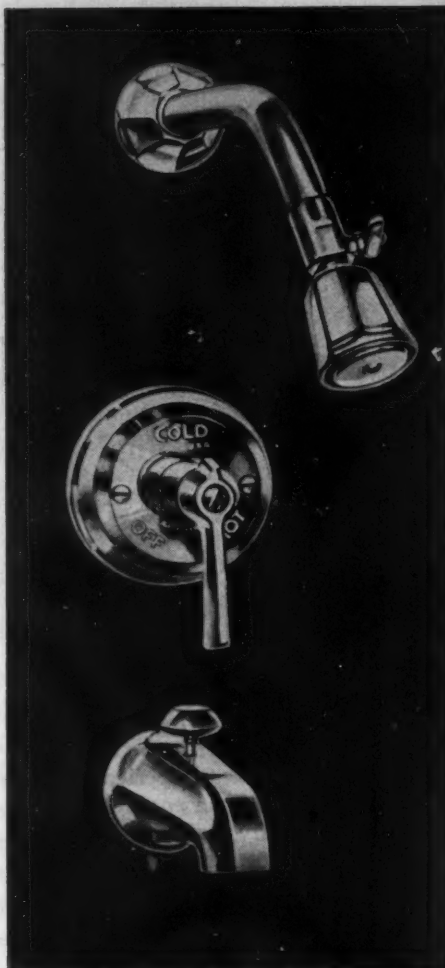


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• tested under plus-normal water pressure

The appearance, quality and performance of Kohler chromium-plated brass fittings are a reliable and important source of client satisfaction. Kohler designing and engineering insure easy, long-term operation and economical upkeep.

The entire line of Kohler fittings adheres to one consistent principle of design. All are styled to harmonize with the fixtures they serve—and with each other. The basic design is straight-forward and practical, with a clean-cut functional beauty that remains pleasing and appropriate throughout years of use.



(At top) CENTRA lavatory fitting with pop-up drain. Aerator spout optional. K-8005-A.

(Above) TRITON shower head with ball swivel joint, volume regulator. Niedecken mixer, with single temperature-control handle, requires but one wall opening, is adjustable to wall thicknesses. Bath spout with diverter control knob. K-7027.

(Right) EDGEWATER sink fitting. Aerator spout optional. K-8601-A.



Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

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AIR-COOLED ENGINES • PRECISION CONTROLS

**General
Doors
Blend
Beautifully**

FIRST CHRISTIAN CHURCH Designed by Thorshov & Cerny, Architects, Minneapolis

into this striking Architectural Design

In many churches across the nation employing modern ecclesiastical design—General doors have provided the versatility demanded by the architects' specifications. The doors used in this installation are General's African Ribbon Striped Mahogany solid core doors. Besides their ability to blend beautifully into this striking modern design, they are constructed to take the hard usage which doors in any public building must absorb. The heart of the General solid core door is its edge glued staggered stave lumber core construction which guarantees the greatest rigidity and stability possible.

For beauty, versatility, and service, specify General Doors on your next job!



MATCHING EDGE BANDS

Three-quarter inch matching hardwood edge bands on both vertical edges provide ample trim area.

EDGE-GLUED CORE BLOCKS

Three dimensional stability is obtained through the use of core blocks of varying length, edge-glued to each other in a staggered pattern, and to the frame, under extreme heat and pressure.

SEVEN-PLY CONSTRUCTION

Absolute flatness of surface is insured through the use of heavy 3-ply panels bonded to rigid edge-grain blocks that have been selected for uniformity, and dried evenly.

GREATER BEAUTY

The smooth, hard cabinet-maker's finish is produced by an extra sanding operation on huge belt sanders. Faster and finer finishing on the job.



A. The three doors shown above open into the church's gymnasium. Beauty and structural strength were the requirements here.

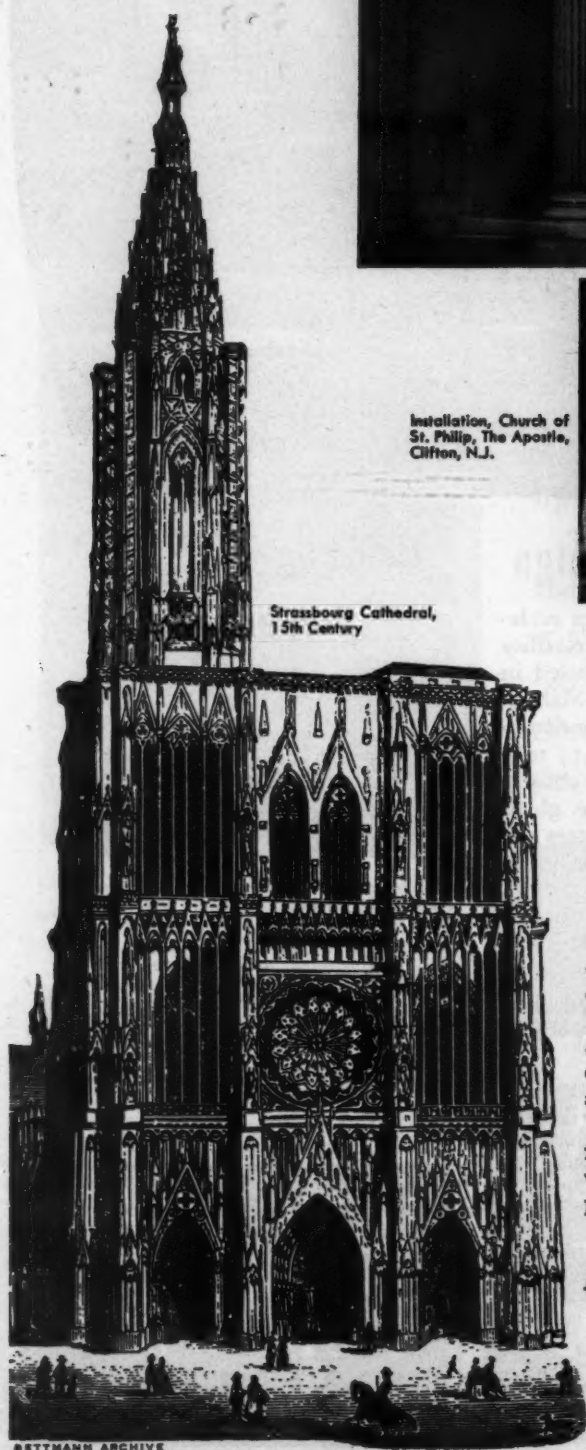


B. It's hard to find the General door in this fluted partition. Adaptability to design was the problem in this instance.

OVER 50 YEARS IN HARDWOOD PLYWOOD

**GENERAL
PLYWOOD**

LOUISVILLE, KENTUCKY



BETTMANN ARCHIVE

Strassbourg Cathedral,
15th Century

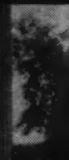
Installation, Church of
St. Philip, The Apostle,
Clifton, N.J.



St. Ann's Church
Cleveland Heights, Ohio



The Vivian Webb Chapel, Claremont, Cal.



St. John's
Church, Delphos,
Ohio



COMFORT GOES TO CHURCH

Throughout the ages the nobility of man has found no higher expression than in the beauty of the world's churches, temples and cathedrals.

But the majesty of a fifteenth century cathedral, with its lofty spires and delicate filigrees of stone, is no more wondrous than its modern counterpart of perhaps lesser artistry but far greater *comfort* that encourages attendance at worship.

Yes, *comfort* goes to church, now . . . and so do millions more people.

One of the greatest advances in achieving church comfort has been the widespread adoption of radiant heating. For no heating is quite as effective as the gentle, all-permeating, sun-like warmth . . . without drafts, currents, or dead spots . . . achieved by modern radiant heating. Today's church designers know that radiant heating, which assures *utmost* comfort and health protection for both the very young and the elderly groups within congregations, is also ideally suited for every other age of worshippers.

They know, too, that *steel pipe* is the most accepted medium for radiant heating systems . . . in fact, the most widely used pipe in the world for heating, plumbing, snow melting, fire sprinkler systems, and power, steam and air transmission.

Send for your free copy of the 48 page color booklet "Radiant Panel Heating with Steel Pipe" and let comfort go to your church, too.

Committee on

STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 FIFTH AVENUE, NEW YORK 1, N. Y.

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is First Choice



Home of Mrs. I. Zimmerman, Manchester, N. H.
Designed by Frank Lloyd Wright



From the first rough sketches . . .

Frank Lloyd Wright specified Colorundum floors for their warmth of color and beauty."

Mrs. I. Zimmerman, Manchester, N. H.

"Look at these photographs of our exciting new home and you can see why we just wouldn't consider drab, colorless concrete. From the first rough sketches," writes Mrs. Zimmerman, "we planned attractive, luxurious Colorundum for the patio and the service areas . . . especially when we found out how little it cost!"

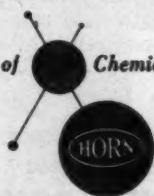
Colorundum is the ideal solution to the problem of exposed or uncarpeted areas of plain concrete. It provides colorful, wear-resistant floors at just a fraction of the cost of tile.

Colorundum is far more resistant to traffic than ordinary concrete floors. It is a balanced formulation of nonslip aggregate (next to the diamond in hardness), water-repellent compounds, and durable colors . . . contains no silica, quartz, metal or sand. It is easy to keep clean, and since it contains no metal, it will not rust or stain.

Colorundum is available in eleven decorator colors.

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Chemical Corporation



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Fused color. Not a paint or coating! Colorundum is troweled into the concrete topping and becomes an integral part of the surface, producing beauty and durability.

A. C. Horn Co., Inc.

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☐ Please send me complete information on **COLORUNDUM**.

Name _____ Title _____

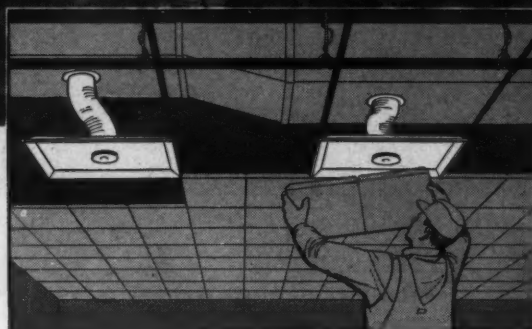
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True Air Conditioned Comfort
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SPECIFIED FOR FORD...coast to coast

Modular Multi-Vent panels will provide a quiet, concealed, draft-free air distribution system in the four new FORD buildings listed at the right.

The Multi-Vent story is simple...this system distributes conditioned air at low velocity by gentle pressure displacement. This unique feature not only eliminates all draft complaints but also allows complete freedom in locating or relocating moveable partitions without repositioning the outlet panels.

In addition Multi-Vent can handle as many as 60 air changes per hour and still maintain an even, draftless, low rate of room air motion!

These are only a few of the many reasons why Multi-Vent is the choice of the nation's leading office buildings, hospitals, laboratories, factories, hotels and restaurants.

DEARBORN, MICHIGAN MAHWAH, NEW JERSEY

Ford Central Staff Office Building (Illustrated above)

Architects and Engineers:
 Skidmore, Owings & Merrill, New York

Mechanical Engineers:
 Jaros, Baum & Bolles, New York

Contractor: Bryant & Detwiler, Detroit

Mechanical Contractor:
 Thermotank, Inc., Detroit

LOUISVILLE, KENTUCKY

Ford Assembly Plant Office Building
 Albert Kahn Associated Architects and Engineers

Ford Assembly Plant Office Building

Giffels & Vallet, Inc.
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SAN JOSE, CALIFORNIA

Ford Assembly Plant Office Building

Architects and Engineers:
 F. A. Fairbrother & Geo. H. Miehl, Detroit

Consultants: Albert Kahn Associated Architects and Engineers, Detroit

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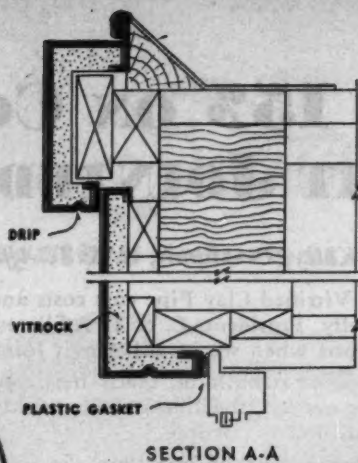
DIVISION OF

WHERE QUALITY IS TRADITIONAL
THE PYLE-NATIONAL COMPANY

1375 North Kostner Avenue, Chicago 51, Illinois

Sales and Engineering Representatives in Principal Cities of United States and Canada.

At right, Radio-TV Station WBT, Charlotte, North Carolina; Davidson Architectural Porcelain with Vitrock backing used on building facade, coping and canopy. J. N. Pease & Co., Engineers and Architects, Charlotte, North Carolina.

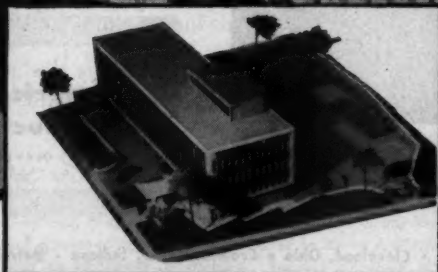


Selected

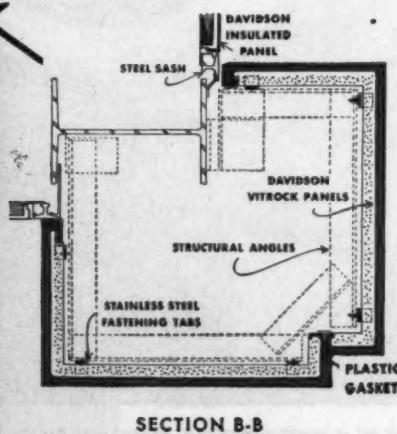
for appeal
for economy
for durability

These factors—complete freedom of choice in panel shapes, sizes and colors, plus construction speed and economy—are resulting in specification of Davidson Architectural Porcelain for the finest buildings. Whether used for new construction or modernization, this modern building material adapts to any structural system and can be counted on for long-lasting, "new" appearance without maintenance.

Write for Architects Fact File, showing types of panels available and suggested curtain-wall, window-wall and fascia applications.



Scale model showing Bel-Park Medical Building as it will appear on completion.



At left, Bel-Park Medical Building, Youngstown, Ohio, now under construction. Davidson Panels are assembled to window frames, then hoisted into place. Approximate time to install complete unit into building structure: two minutes. Architect, P. Arthur D'Orazio, Youngstown, Ohio. Contractor, Emanuel Katzman & Company, Youngstown, Ohio.

Davidson ENAMEL PRODUCTS, INC. • 1106 E. Kibby Street, Lima, Ohio

"WE SAVE 8% TO 15% ON CONSTRUCTION COSTS WITH AMVIT JOINTED CLAY PIPE"

Says John B. Kelly, President, C. & T. Affiliates, Inc.

"Amvit Jointed Vitrified Clay Pipe cuts costs and speeds construction," says John B. Kelly, President, C. & T. Affiliates, Inc. "We save from 8 to 15 percent on costs when we install Amvit Jointed Clay Pipe."

"The Amvit Joint is built in, ready for installation. Since no special preparations are needed, the line is laid quickly and easily. Immediate backfilling is possible."

When the pipe is "pushed" together, the joint is in constant compression. Water cannot force its way in or out, thus preventing costly ground water infiltration or root penetration.

Amvit Jointed Clay Pipe is just one of the many products manufactured in our plants across the nation. American Vitrified Products Company also produces concrete pipe, clay pipe, flue liners—both glazed and unglazed, and clay liner plates.

For more information, write or call American Vitrified Products Company, National City Bank Building, Cleveland, Ohio, or our office nearest you.

City of Camden, N.J.

City Engineer
George Rogers

Assistant City Engineer
John Morgan



The Amvit joint is made of a new acid resistant plastic material with rubber characteristics. Like the pipe, the joints will not be harmed by any condition of underground service. The pipe is simply pushed together. The trench is then ready for backfilling.



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entrance detail in *Suntile* ceramics

adds decorative interest to a simple church



HOLY TRINITY CHURCH, SKOKIE, ILL., ARCHITECTS: EKROTH, MANTORANO, EKROTH, CHICAGO, ILL.

This facade decoration is economically executed in Suntile Satinized Ceramics—rugged, natural clay and porcelain tile that serve equally well in floors or walls, indoors or out.

The tapestry-like blue field is a mixture of 1"x1" tile (nos. 253, 121, 154). The cross is of glazed 1"x1" units in buff shades (nos. 124, 221, 223).

For ceramic tile that will stimulate your design ideas—and for guaranteed installation, call your Suntile dealer.



May our Design Staff help you?

Layouts for special designs like this, or suggestions for tile applications in any area may be obtained from our staff of trained ceramic artists, headed by Harry J. Macke. There's no charge—just send us elevations or sketches. Address Dept. AR-125.



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Dependability instills confidence...and you can depend upon Kawneer products to give the lasting satisfaction your designs deserve.

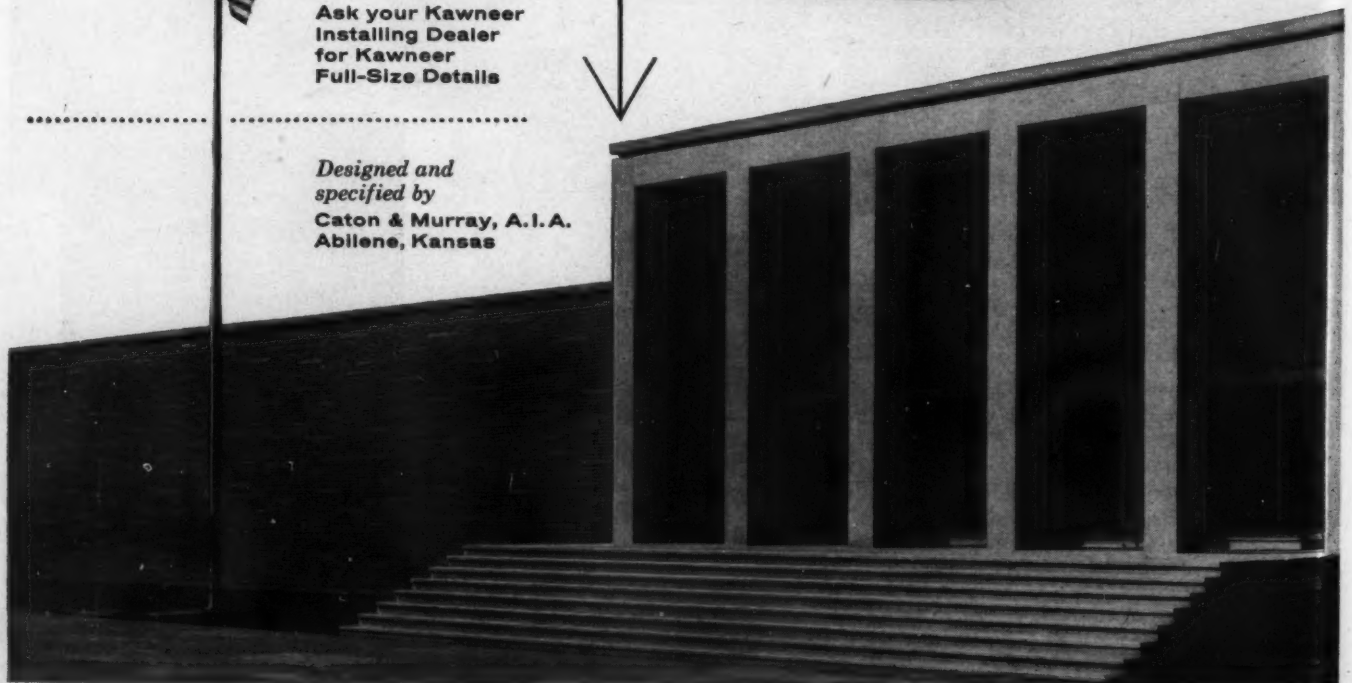
The painstaking care of skilled craftsmen guide every installation of Kawneer products to insure that your detailed, specified designs are followed "to the letter". A notable contribution to the grace and beauty of the Eisenhower Memorial in Aberdeen, Kansas, is its entrance...another Kawneer Touch.

Kawneer representatives will be happy to assist with building front information, to furnish full-size details, etc., and suggest reliable sources for prompt bids. You'll find the Kawneer dealer nearest you under "Store Fronts" in your telephone directory. Or, write Kawneer, Niles, Michigan. No obligation, of course.



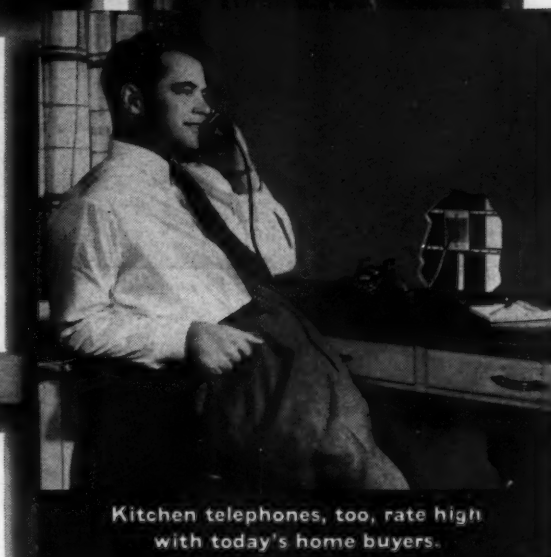
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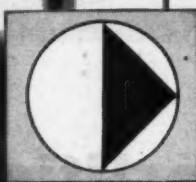




Bedroom telephones offer privacy and convenience—day and night.



Kitchen telephones, too, rate high with today's home buyers.



BUILT-IN CONDUIT

BUILT-IN CONDUIT

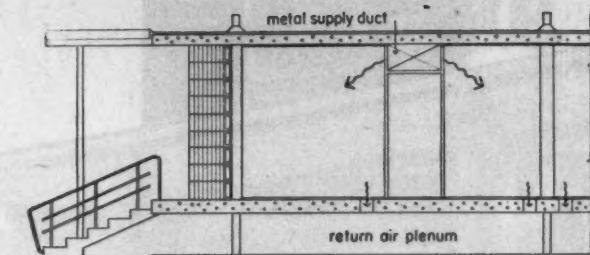
For the little it costs, telephone conduit helps a lot
in preserving the interior beauty of a home and in
adding to the home buyer's feeling of satisfaction.
Specifying telephone conduit is good sound practice.

Your Bell telephone company will be glad to help you work out economical conduit installations.

Just call your nearest business office. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 31a/Be.

BELL TELEPHONE SYSTEM





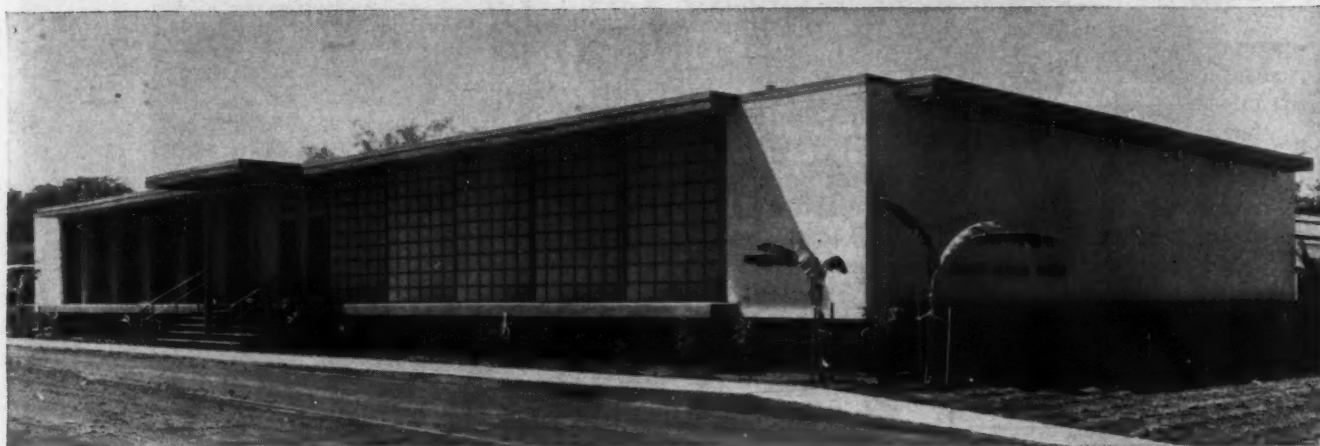
Partial section thru building showing main supply duct location and return-air grilles leading to sub-floor plenum.

CRAWL SPACE USED AS RETURN-AIR PLENUM.

Allocating space for year-round air conditioning duct-work and equipment posed a problem in the new Olmos Medical Center in San Antonio, Texas. Minimum loss of valuable rental space was accomplished by running two main supply ducts down the center of each double set of offices the length of the building. Two-way, high-wall discharges supply conditioned air to each of the 48 rooms; and return-air grilles, in rooms and hallways, lead to the return-air plenum, which extends under the entire floor area of the building.

An indoor equipment room receives the return air through a duct leading to the air conditioning unit.

Architects: Cerf Ross Associates, A. I. A.

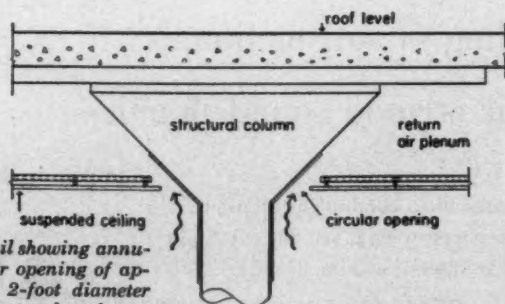


What's new in air conditioning

AIR RETURN THROUGH ANNULAR COLUMN OPENINGS. The combined cost of the heating, ventilating and air conditioning installation for Gimbel Brothers' store in Milwaukee, Wisconsin, was remarkably low. A contributing factor was the novel use of the suspended ceilings for return-air plenums. The circular openings around the structural columns are used for the return air and eliminate the cost of return-air grilles.

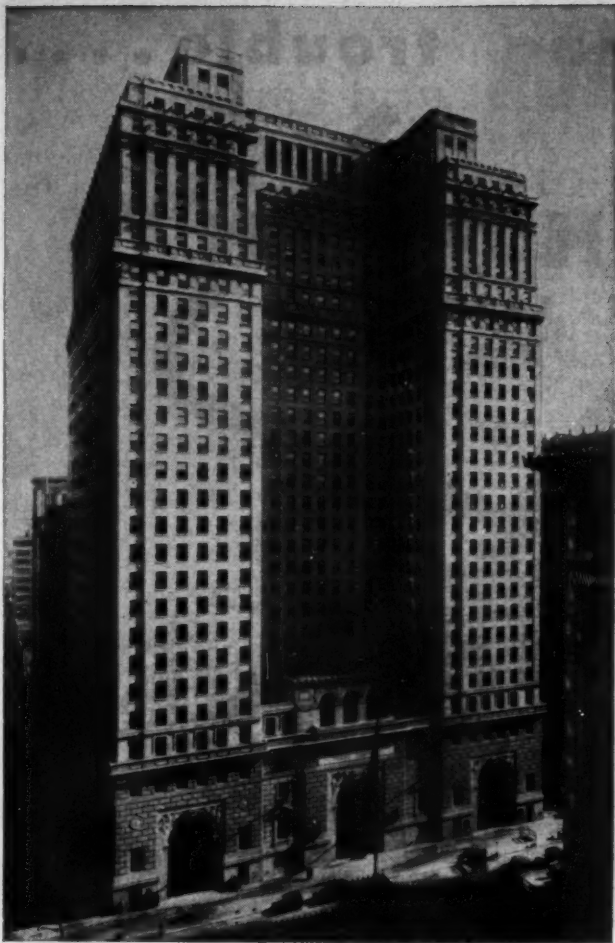
Conditioned air-supply outlets are centrally located in the bays. This places the supply- and return-air openings as far apart as possible for efficient air distribution.

Architects: Grassold-Johnson & Associates, Walton Becket & Associates



Typical detail showing annular return-air opening of approximately 2-foot diameter around structural column.





EXISTING VENTILATING SYSTEMS IN BANKING AREA ADAPTED TO AIR CONDITIONING. When the 30-story Fidelity-Philadelphia Trust Building was constructed in 1928, a ventilating system was installed to serve most of the areas occupied by the trust company. After an intensive study it was found that most of the original ductwork could be used for a modern air conditioning system.

The method of supplying conditioned air to the main banking space is typical of solutions offered by using existing supply ducts to maintain architectural appearance. The balcony at the second-floor level had a marble balustrade with the ventilating ductwork within. On the top surface of the balustrade, additional grilles were installed to deliver and direct air over the balcony area. On the face of the balustrade, directional outlets were installed, replacing existing decorative grilles to supply the main banking floor. For the space under the balcony, ceiling diffusers were connected to the risers supplying the ducts in the balcony balustrades.

Consulting engineer: Charles S. Leopold



installations... using "Freon"*

On your next air conditioning job, don't take the refrigerant for granted. No component is more essential to the efficient, trouble-free operation of air conditioning equipment. That's why it's important to specify Du Pont "Freon" safe refrigerants. They're ideal for air conditioning, because they're nonflammable, nonexplosive and virtually nontoxic. Building codes everywhere endorse "Freon" refrigerants.

"Freon" is dependable, too. For nearly

25 years Du Pont has manufactured "Freon" to unsurpassed standards of quality and purity. The result is a product which contributes to long efficient service for air conditioning and refrigerating equipment. There is a "Freon" refrigerant for any size and type of installation. So always be sure to specify "Freon", made by Du Pont, for your next air conditioning job.



SEND FOR FREE BOOKLET filled with informative data on a variety of air conditioning installations. For your free copy write to E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division 1112, Room 2420 Nemours Building, Wilmington 98, Delaware.



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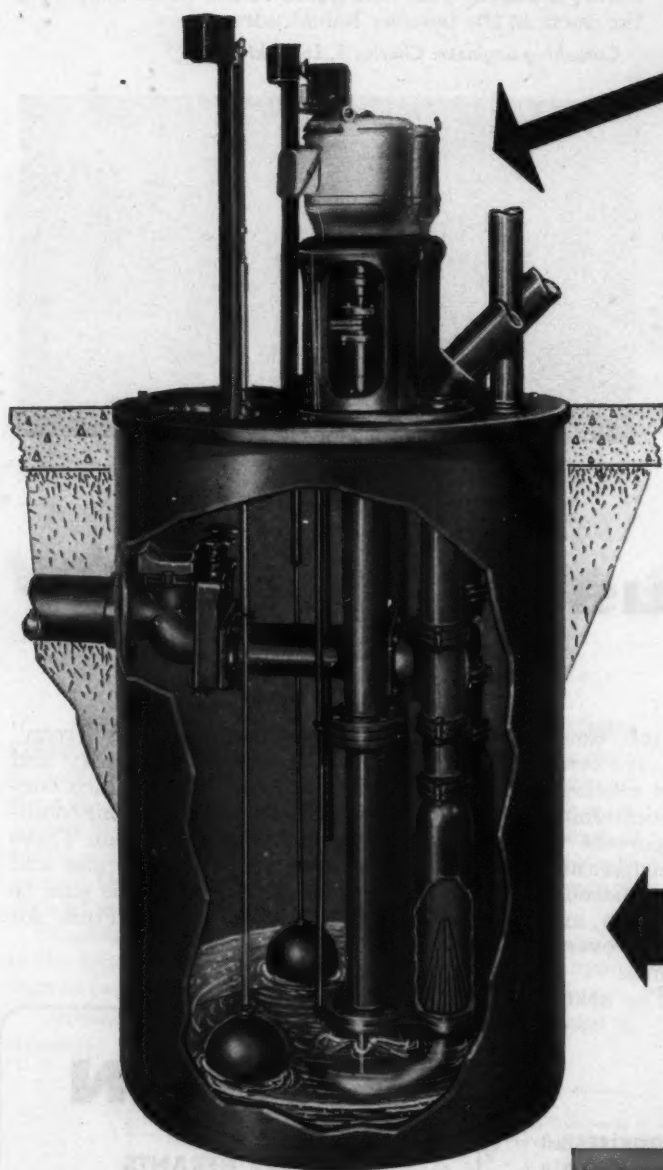


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Avoid pump clogging trouble....

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Type "F" submerged
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This is the only truly clog-proof sewage ejector. Only liquid is handled by the impeller. All other air or liquid ejectors have working parts in contact with coarse sewage material that causes clogging. In the "Flush Kleen" all coarse matter is strained out, then back-washed from the strainer into the higher level sewer. Of the more than 8000 "Flush Kleen" sewage ejectors used on ships, military installations, municipal lift stations, commercial and industrial buildings of all kinds, not one has ever clogged.

Protect your client — and your reputation. Guarantee owner satisfaction by specifying "Flush Kleen" sewage ejectors wherever sewage must be pumped.

OPERATING DETAILS

"Flush Kleen" sewage ejectors are usually installed in duplex units and operate alternately. While one pump operates, sewage flows into the wet basin through the idle pump. A strainer ahead of the pump impeller retains all coarse sewage matter. (see cut-away)

When the idle pump starts, the coarse sewage matter in the strainer chamber is flushed into the discharge pipe with liquid sewage.

A special check valve prevents discharges back into the inlet line.

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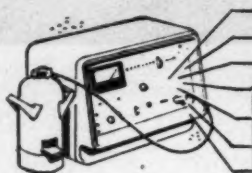
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penetrates rust to bare metal
 on your rusted surfaces
 as seen through the "eyes"
 of radioactivity

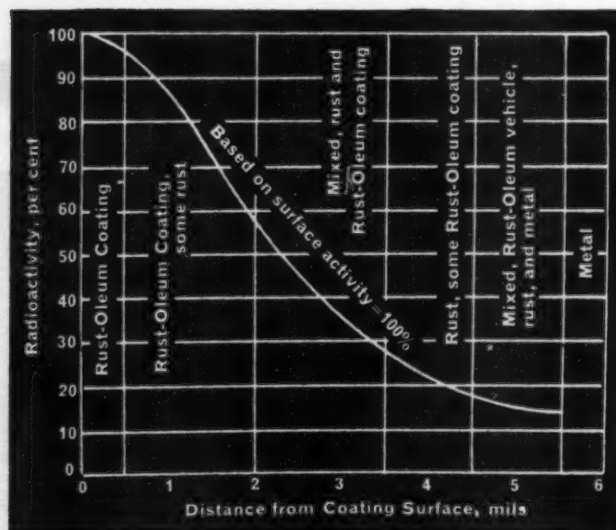
Illustration of cross section of rusted metal coated with Rust-Oleum (enlarged 150 times)



Geiger Counter Traces Rust-Oleum Penetration Through Rust to Bare Metal

When you apply Rust-Oleum 769 Damp-Proof Red Primer directly over rust, the specially-processed Rust-Oleum fish oil vehicle works around the rust particles, through the fissures in the rust formation, and into the pits in bare metal—driving out air and moisture. *Irrefutable proof* of this penetration is now yours... the results of nearly three years' research utilizing radioactive tracing with C^{14} radioisotope.

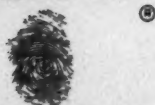
The methods and results of this research are presented in a complete thirty-page report, entitled "The Development of a Method to Determine the Degree of Penetration of a Rust-Oleum Fish-Oil-Based Protective Coating into Rust on Steel Specimens," prepared by Battelle Memorial Institute technologists. Clip the coupon to your letterhead for your copy. There is no cost or obligation.



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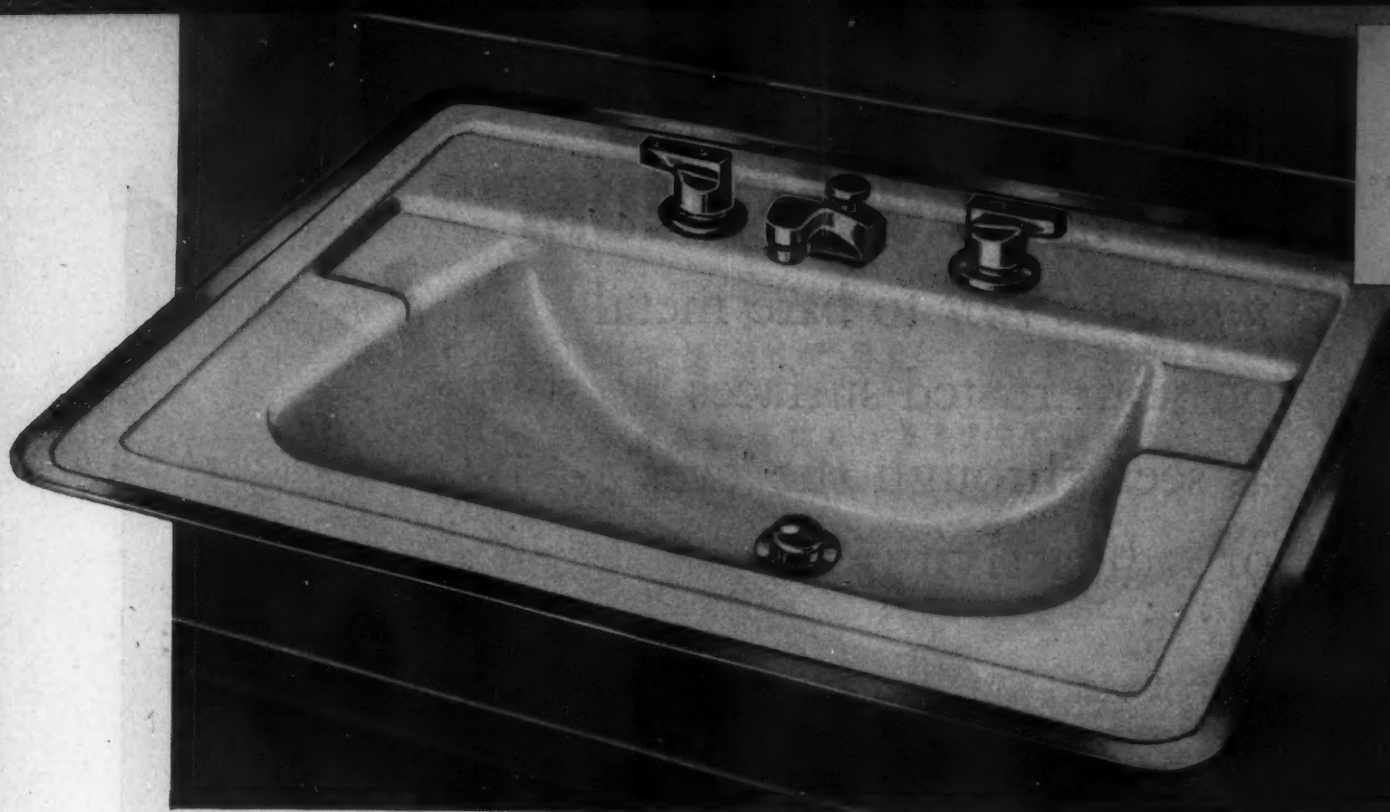
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a

Picture studies in function and design



C

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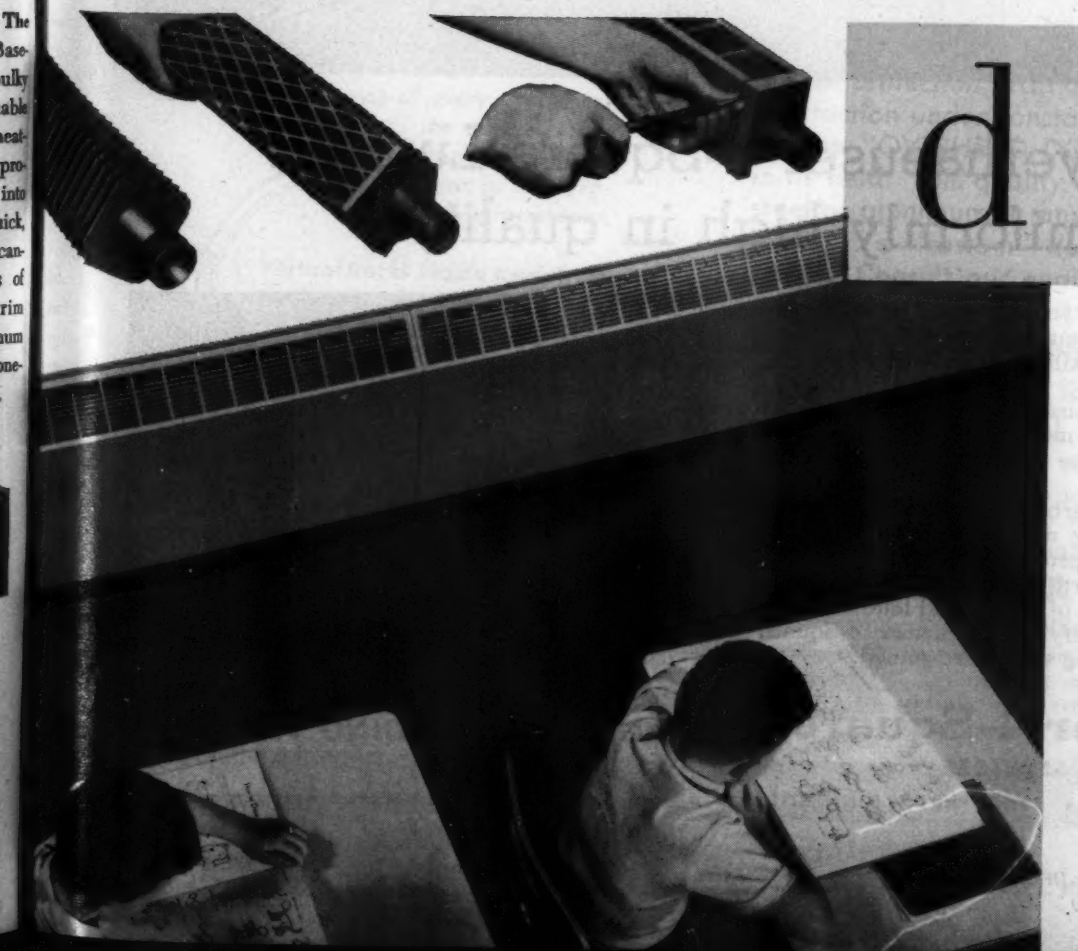
NEW Merrilyn Counter Top Lavatory. This large 28" x 20" American-Standard lavatory is generous in size, easy to install and built to last. It's made of genuine vitreous china for easy cleaning and lasting beauty . . . and it comes in all of the popular American-Standard colors. The Merrilyn is the latest addition to American-Standard's extensive line of counter top lavatories for use in homes, hotels, motels and institutions.

Compact Boilers with Large Output. American-Standard's new G-4 and G-6 Gas-Fired Boilers are of modern, compact design, with integral drafthoods and manifolds neatly enclosed in handsome, 20-gauge steel jackets. In spite of their space-saving construction, the boilers have high heating capacities. The G-4 is for large residences and small commercial buildings; the G-6 heats hotels, schools and department stores. Both boilers require minimum headroom and are designed for low cost installation and operation.



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Hang Your Heating On The Wall. Temtrim Finned Tube Radiation is low in cost, easy to install and allows great flexibility in layout. Temtrim is made of tough steel pressure tubing with steel fins. It can be hung on the wall at any level, from ceiling to floor, in single or multiple tiers. Temtrim is perfect for new buildings or in modernizing existing structures with two-pipe steam or hot water systems. Economical Temtrim heating, with fins exposed or with one of three attractive covers, can be installed in factories, gymnasiums and classrooms or office buildings.

These are just a few of the many plumbing, heating-cooling and kitchen products made by **AMERICAN-Standard PLUMBING AND HEATING DIVISION**, American Radiator & Standard Sanitary Corp., P. O. Box 1226, Pittsburgh 30, Pennsylvania.

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There are four basic reasons why you can count on outstanding quality in Weyerhaeuser 4-Square Lumber:

Milling is done by highly skilled men, using modern precision equipment.

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Weyerhaeuser 4-Square **LUMBER AND SERVICES**

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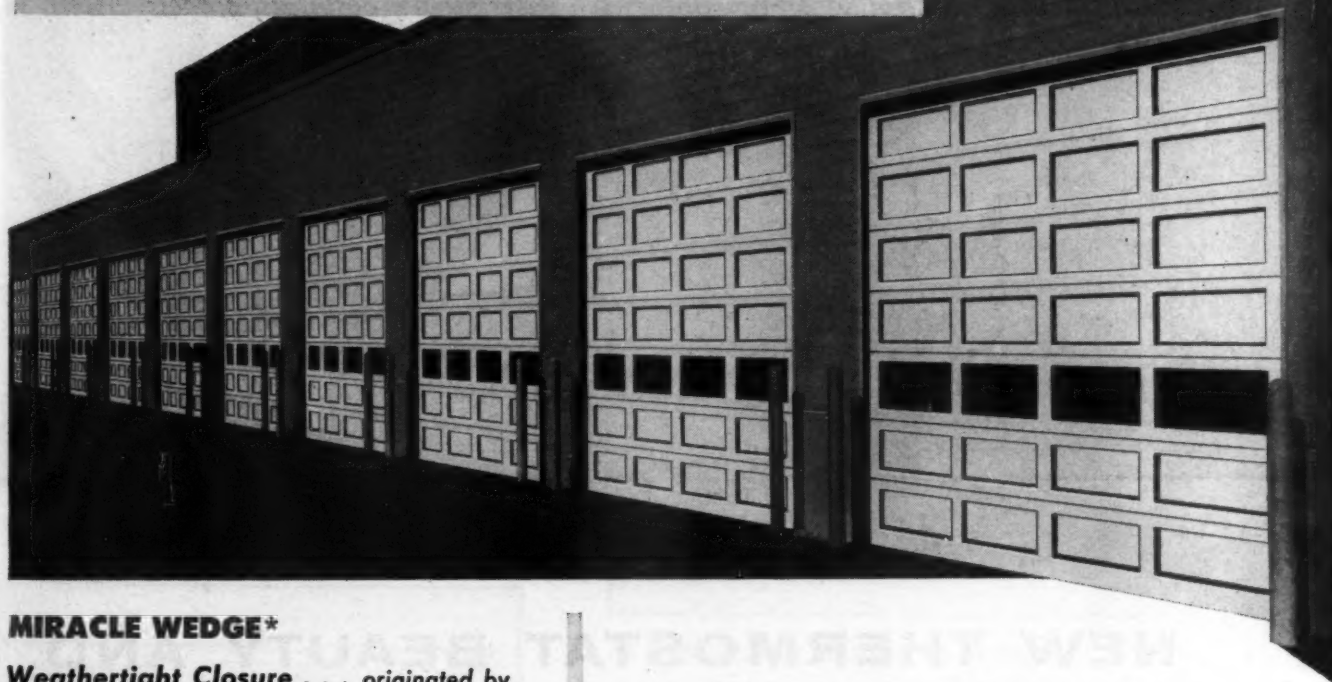
a Weathertight "Wall" ^{with}

THE

"OVERHEAD DOOR"

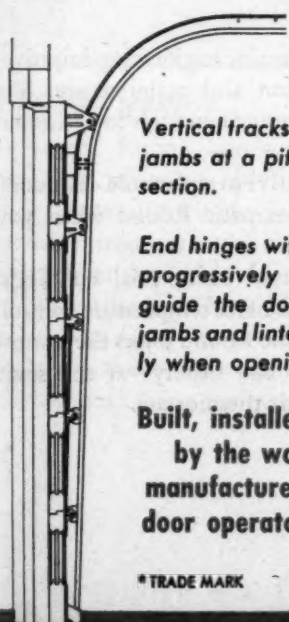
TRADE MARK

INDUSTRIAL—COMMERCIAL—RESIDENTIAL



MIRACLE WEDGE*

Weatheright Closure . . . originated by Overhead Door Corporation in 1921, this feature is the basis of construction of every door, from the smallest residential garage door to the largest industrial door.



Vertical tracks incline away from jambs at a pitch of $\frac{1}{4}$ " per door section.

End hinges with roller sleeves of progressively graduated height guide the door tightly against jambs and lintel, yet free it quickly when opening.

Built, installed and serviced by the world's largest manufacturer of doors and door operators exclusively!

*TRADE MARK

For easy solution of heating problems, employee protection, traffic speed-up and lasting satisfaction under constant hard use, insist upon The "OVERHEAD DOOR," first and finest in its field. This quality door is built of wood, steel or aluminum in any size to fit the opening . . . a "custom" door at production line prices. Consult our engineering and research staff about unusual installation problems.

Equip All Doors with

ELECTRIC OPERATORS and Remote Control

Electric operation from a centralized control board pays for itself in man-hours saved. It lengthens the life of the doors because they move at a steady speed proper for their size and weight, without sudden strains.

OVERHEAD DOOR CORPORATION

Hartford City, Indiana

MANUFACTURING DIVISIONS:

HILLSIDE, N.J.

CORTLAND, N.Y.

NASHUA, N.H.

LEWISTOWN, PA.

OKLAHOMA CITY

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PORTLAND, ORE.

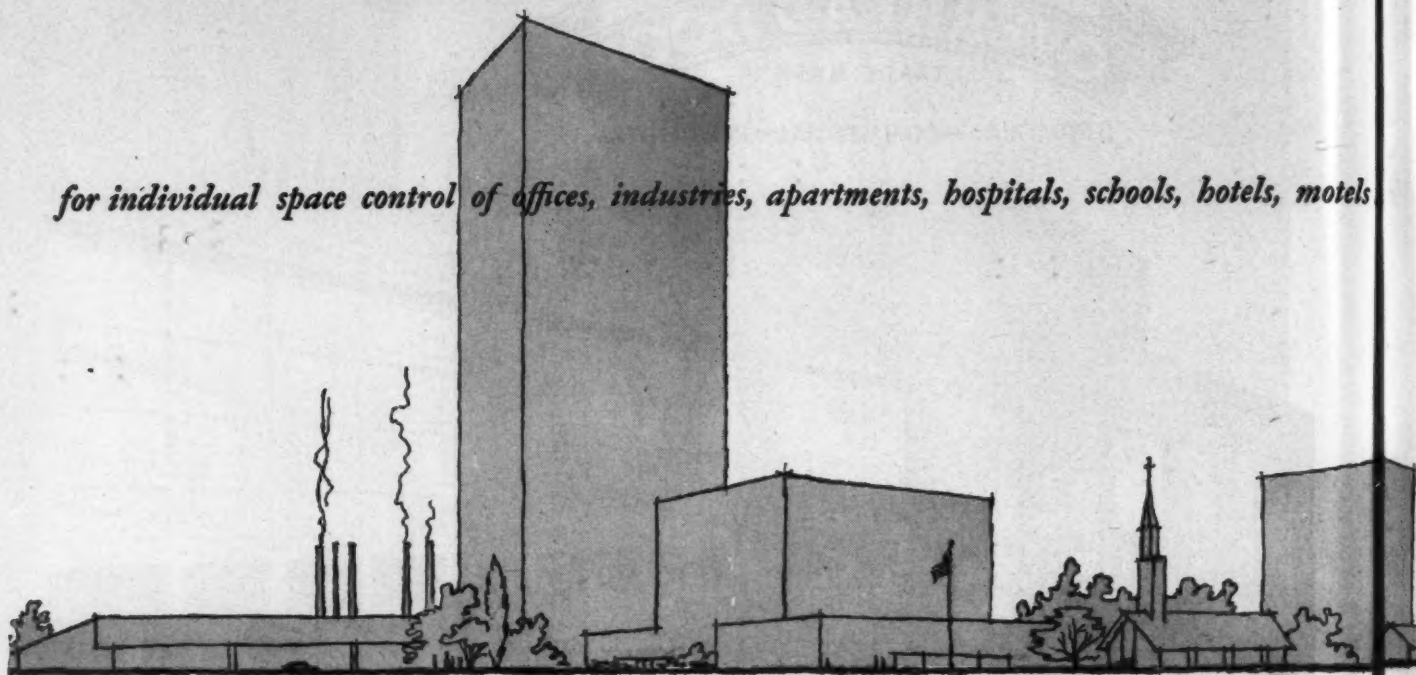
America's Great Name in
QUALITY DOORS

© 1955, O.D.C.

NATION-WIDE SALES • INSTALLATION • SERVICE

THE NEW HONEYWELL PNEUMATIC ROUND

for individual space control of offices, industries, apartments, hospitals, schools, hotels, motels



NEW THERMOSTAT BEAUTY AND EFFICIENCY—EASIER INSTALLATION

HERE'S the first completely new pneumatic thermostat since 1939. And one that blends beautifully into the contemporary interiors of modern commercial architecture. Henry Dreyfuss, world-famous industrial designer, was design consultant.

The Honeywell Pneumatic Round is as easy to use as it is pleasing to look at. But its most revolutionary features are not on the outside—but inside the removable metal case. New concepts and materials provide extraordinary sensitivity, precise modulation and instant response. So you get ideal comfort no matter what the building conditions or outside tem-

perature might be. Eight major engineering improvements facilitate installation and maintenance. Yet the Pneumatic Round is rugged enough to withstand shock and tampering.

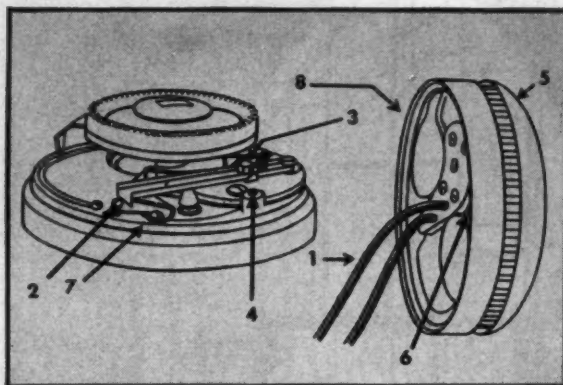
It's easy and it's inexpensive to replace old-fashioned thermostats with the Pneumatic Round when you modernize or decorate.

For present and proposed commercial buildings, for individual apartment or office temperature control, Honeywell's new Pneumatic Round offers the utmost in comfort, convenience and beauty—at the same price as ordinary pneumatic thermostats.



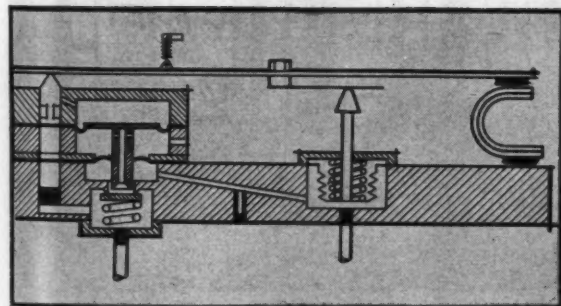
So beautiful, so easy to decorate

The simplicity and beauty of the new Pneumatic Round complement all modern interiors. The bronze-colored metal cover may be lifted off and painted to blend with the color of walls or furnishings. Setting and reading are simplified by one easy-to-read scale which serves both the thermometer and the setting indicator. Adjustable stops inside allow your client to limit the temperature range or lock the desired setting in place if he wishes.



So mechanically superior in detail

1. New flexible plug-in tubes will not crimp or collapse.
2. Quick calibration by simply turning screw with screwdriver.
3. Easily adjusted throttling range.
4. Simple plug-in gauge easily tests branch line air pressure.
5. Bronze-colored cover may be lifted off and painted to blend with walls.
6. Tight filter keeps air clean.
7. Simpler construction with fewer parts.
8. Flush or surface mounting. For modernization, a special adaptor plate covers hole left by old thermostat.



So precise and sensitive

The Pneumatic Round borrows the force-balance principle from precision industrial instruments to provide an automatic self-check on every change in the signal. It introduces a tiny new low-mass bimetal element so sensitive that it responds almost instantly to temperature changes. The result is the most precise modulation, the fastest response of any pneumatic thermostat on the market. And this means efficient working and living temperatures.

MINNEAPOLIS
Honeywell



First in Controls

112 offices across the nation

Since

HOPE'S CHURCH WINDOWS

1818

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH



St. Stephen's Episcopal Church, Columbus, Ohio.

Brooks & Coddington, Architects - E. Elford & Son, Inc., Contractor

EXPERIENCE over the years has established Hope's in the field of church fenestration. Whether the requirements are for modern design such as in the handsome church illustrated here or for traditional, leaded art church windows, Hope's are fully qualified to execute the designs and layout plans of the architect. The superior strength and rigidity built into Hope's Steel Windows assure a lifetime investment.

Hope's engineers are available to offer whatever assistance you may require. Write for Booklet 134-AR, for full information.

HOPE'S WINDOWS, INC., Jamestown, N. Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

Producers of
famous **POLYSAR**
chemical rubber...

find modern
metlwal
movable partitions

adaptable...economical

At Polymer Corporation Limited, Sarnia, Canada, standard metlwal movable partitions meet the completely different floor-plan needs of three major departments. Such tailored efficiency, for each quiet, tasteful office, was possible at low cost, because of metlwal's flexibility. Metlwal movable partitions are designed for quick, permanent installation, yet permit overnight floor-plan changes. Their attractive, lifetime finishes—in wood-grain or decorator colors—won't crack or craze. Whether used in new or modernized buildings, metlwals reflect quality in every detail.

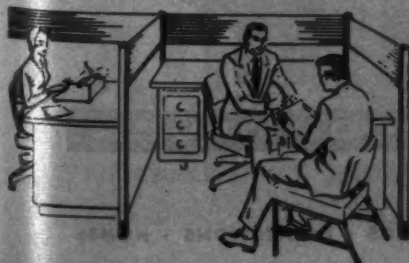
Gordon S. Adamsen,
Toronto

General Contractor:
Foundation Company
of Canada, Toronto

Sub-Contractor:
James F. Gillanders
Company Limited,
Toronto



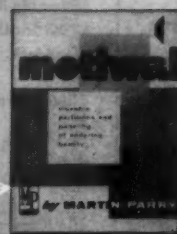
Now... **metlwal jr**
FREE-STANDING PARTITIONS AT LOW COST



Quickly provides fully private or semi-private offices. Also a distinctive space divider. Easily installed—and changed. Write for brochure.

PROOF OF EXTRA QUIET AND PRIVACY
—WITH metlwal

Complete test results on sound transmission loss—made by an independent research organization—are available to you. They prove the advantages of metlwal's exclusive double-wall, double-insulated construction. Write for your copy.



MARTIN-PARRY CORPORATION

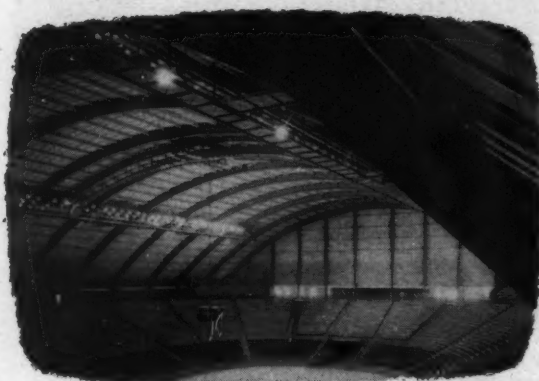
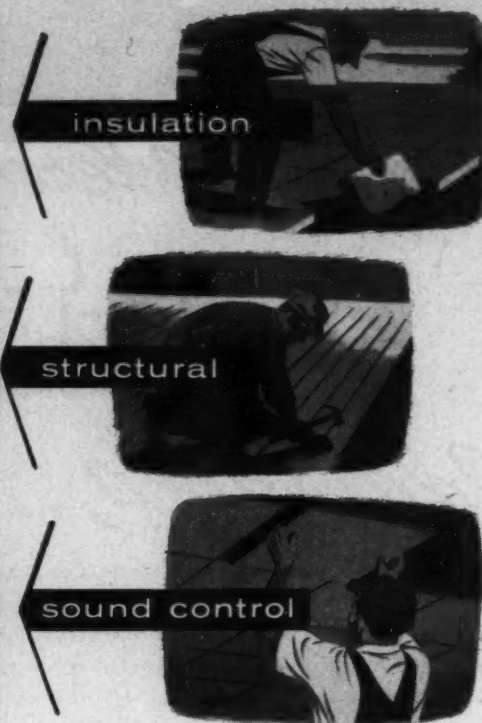
SINCE 1878

BOX 964, TOLEDO 1, OHIO

IN CANADA: MARTIN-PARRY (CANADA) LTD. 82 DUNDAS STREET LONDON, ONTARIO

Tectum Method saves money

1 operation takes the place of 3



Acoustics are near perfect in the Student Activities Building, University of Maryland, insured by a combined deck and ceiling of 2" Tectum plank nailed to steel purlins.

Architects: Hall, Border and Donaldson, Baltimore.

Contractor: Baltimore Contractors, Inc.

Erector: Irvin Prickett & Sons, Inc., Washington, D.C.

A single product meets all "overhead" requirements for comfort, safety and economy

Now! The Tectum Method offers you an easy way to cut construction costs *without sacrificing quality or workmanship*. Tectum is more than a product—it's a *method*! In fact, Tectum will actually *improve* the quality of your job. There's a simple explanation for the superiority of Tectum. It does 3 jobs in 1. *First*, it's a roof deck; *second*, it's insulation; and, *third*, Tectum is acoustical. Not only is Tectum time-and-labor-saving, but Tectum's light weight (20 to 24 lbs. per cubic foot) lets you use lighter, more economical spans.

Tectum offers many other merits. Learn about them by writing for a copy of the Booklet "In the Market for a Quality Roof Deck?", or call your local Tectum distributor.

Tectum Division,
Peoples Research and Manufacturing Co.,
200 South 6th Street,
Newark, Ohio

Please send "In the Market for a Quality Roof Deck?"

I am also interested in Tectum for _____

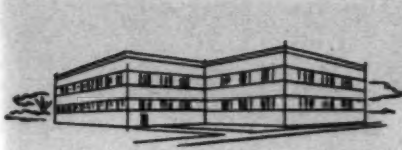
Name _____ Position _____

Firm _____

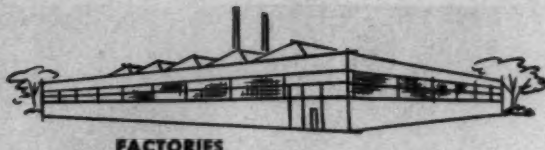
City _____ Zone _____ State _____



FOR PLANTS • COMMERCIAL BUILDINGS • INSTITUTIONS • HOMES



APARTMENTS



FACTORIES

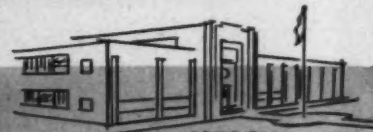


RESTAURANTS



MOTELS

new!



SCHOOLS



HOMES



LAUNDRIES

Cut-a-way view of concave type tank suitable for horizontal or vertical mounting.

● Here is a *glass-lined*, large volume water storage tank to meet your demands for the clean, rust-free storage of cold and hot water for your commercial or industrial jobs. Where rust and corrosion are annoying problems and where long tank life is desired these *new* glass-lined water tanks are the answer . . . and at reasonable cost.

The inside of this new tank, especially designed for the storage of water, is completely coated with special A. O. Smith ceramic glass, permanently fused to the steel. Stored water will stay as pure and clean as your water supply, and rust free, too, because the mirror-smooth, glass-surfaced steel tank can't rust or corrode under any water conditions. Ranging in size from 100 to 1,000 gallons, or larger on special orders . . . designed for horizontal or vertical mounting in the smaller sizes for installation flexibility . . . available for use in gas-fired Burkey hot water systems . . . or fitted with coils for steam systems . . . you have a proved line of water storage tanks to choose from.

See your nearest A. O. Smith distributor for full details about this quality line of Permaglas water storage tanks.

Permaglas®

**LARGE
VOLUME
WATER
STORAGE
TANK**

for restaurants, plants, motels,
laundries, apartments, homes,
schools — or any place where
water rusts or corrodes tanks.

Through research  . . . a better way

A.O. Smith
CORPORATION

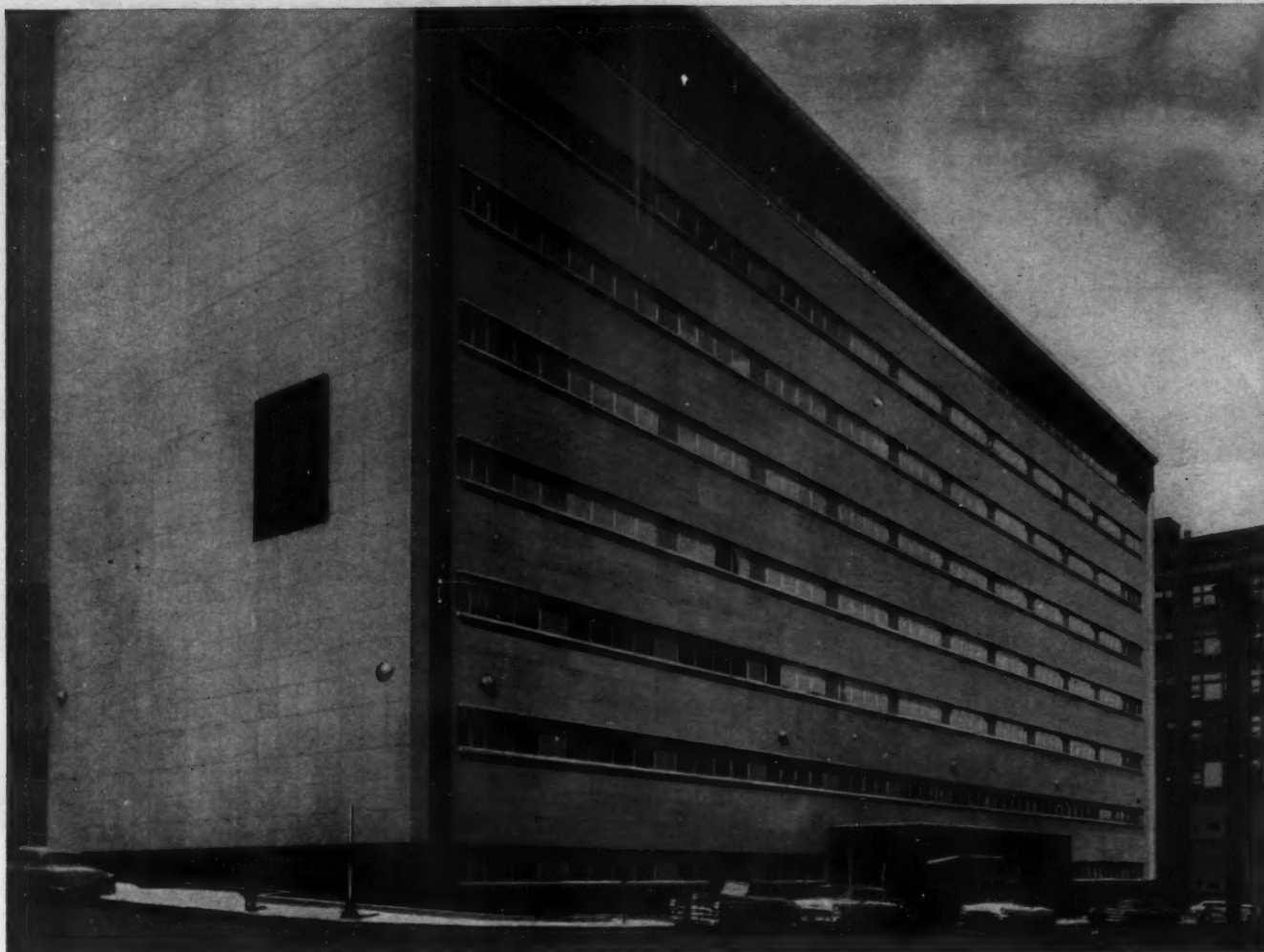
PERMAGLAS DIVISION • KANKAKEE, ILLINOIS

write

Write for the new Permaglas Large Volume Water Storage Tank Specification Sheet . . .

TO: A. O. Smith Corporation, Kankakee, Illinois, ARCH R-1255
Gentlemen: Please send me the above mentioned literature.

Name Title
Company
Address
City Zone State



LONGSPANS PROVIDE PLENTY OF WORK SPACE IN NEW ST. PAUL INSURANCE OFFICE

This handsome 8-story office building is the new home of the Minnesota Mutual Life Insurance Co., on Victory Square in St. Paul. The exterior is a native Minnesota stone topping a black granite base. A particularly striking lobby features large areas of glass, marble, a variety of woods and a colorful historical mural. For permanency of structure, the building's framework is of Bethlehem structural shapes.

Outside dimensions of the new office building are 266 ft by 68 ft, giving approximately 119,000 sq ft of usable floor space.

To provide large column-free interior office space, the first line of beams and columns parallels the front or long direction of the building, 44 ft back from the front. This 44 ft depth was spanned with Bethlehem Longspan Joists, providing large, unobstructed work space on all office floors.

Besides providing clear working space, the use of Bethlehem Longspan Joists simplified the installation of air-conditioning ducts and other pipes and conduits, which could, in many cases, be run right through the open webs. And Bethlehem Longspans contributed to the building's fire-resistant construction as well as providing a rigid, non-warping construction.



Bethlehem Longspan Joists span the 44-ft bay, providing column-free office space.

Architects:
Ellerbe and Co., St. Paul
General Contractor:
Baumeister Construction Co., St. Paul
Steel Fabricator:
St. Paul Structural Steel Co.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast
Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM LONGSPAN JOISTS





nothing's more violent than a tea party!

POMONA TILE

Scorching utensils, acids, rough abrasions, anything that mars ordinary hard surfaces has no effect on Pomona Tile's "Space-Rite" Perma-glaze deck tile. Fused by an exclusive Pomona process, Perma-glaze has flint-like hardness. That is why this steaming kettle and potent lemon juice acid prove harmless to its lifetime jewel-like surface. Note the smart, new 6" by 4¼" size tile in Pomona's textured Sun Yellow Perma-glaze. To guarantee complete client satisfaction, specify Pomona "Space-Rite" tile.

Write for free catalog with actual tile samples of full line of colors.

POMONA TILE MANUFACTURING CO.

629 N. La Brea, Los Angeles 36, Calif. • York 1177

Seattle • San Francisco • Pomona • Long Beach • Arkansas City, Kan. • Houston • St. Louis
Phoenix • Salt Lake City • N. Hollywood • N. Kansas City, Mo. • Chicago • Denver • Dallas

NORTON "INADOR" ... a modern door closer keyed to modern design



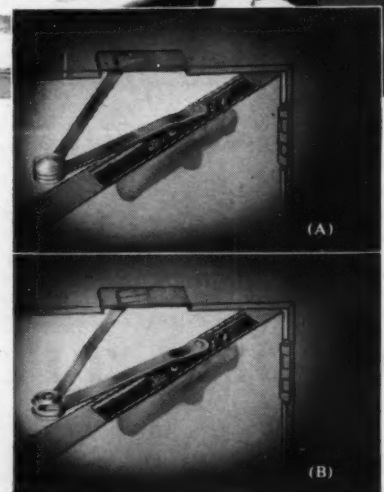
Effective concealment for trim modern beauty ... plus the rugged reliability only liquid closers provide!

You can be sure of complete harmony of design between doors and door closers when you specify *Norton Inador*. You can also be sure your clients will receive all the reliability, durability, low maintenance and precision workmanship so characteristic of all Norton Door Closers. For fully illustrated descriptions and engineering data on this and other models, consult the current Norton catalog. Write for one today if you don't already have a copy.

NORTON®

75 years of leadership
in door closers

DOOR CLOSERS Dept. AR-125, Berrien Springs, Mich.



The complete INADOR mechanism is concealed in a mortise in top rail of door ... 4 sizes to meet every need ... all models available with (A) regular arm or (B) holder open arm.

WHAT TO LOOK FOR IN QUALITY TOILET COMPARTMENT CONSTRUCTION

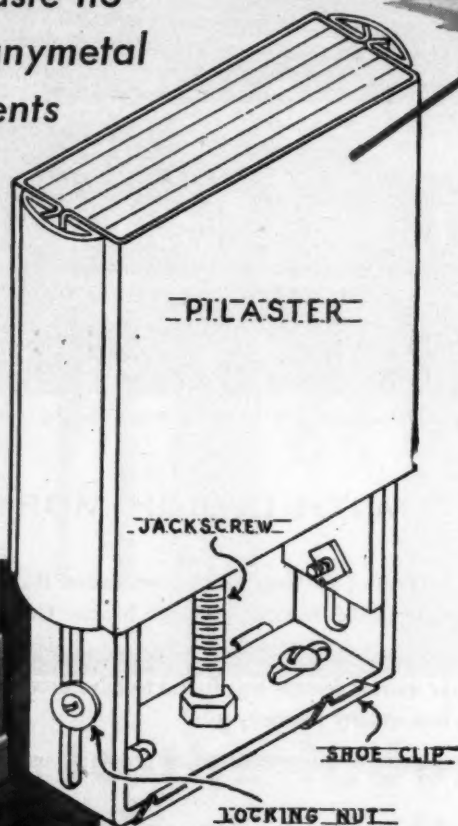
One of many major differences that give you your money's worth in satisfactory service!

Built-in Jackscrew

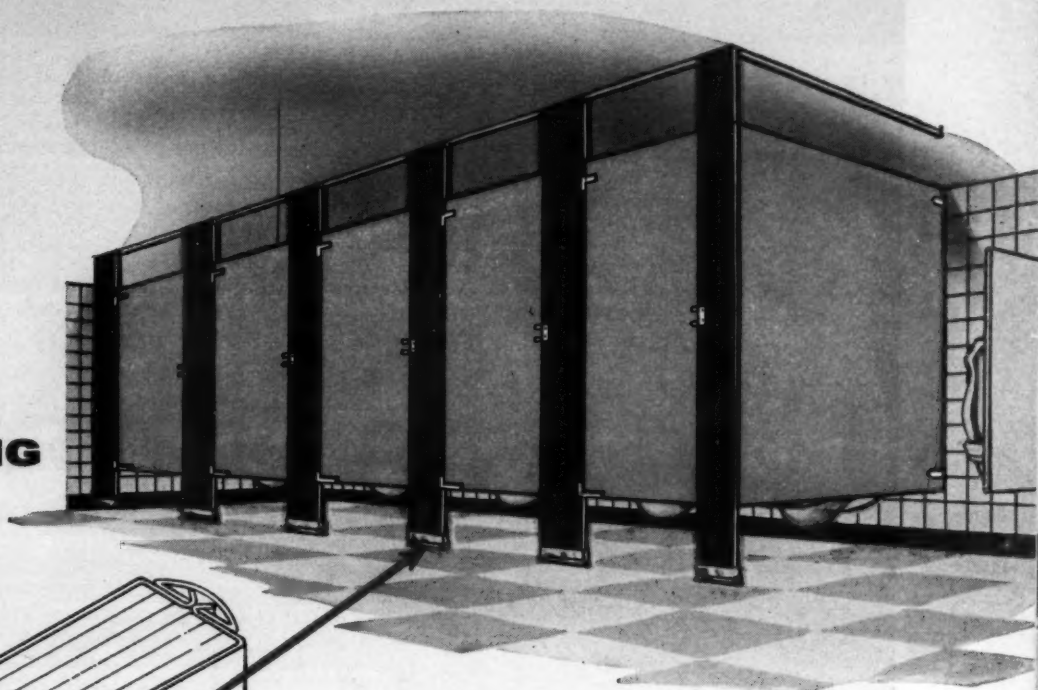
**FOR QUICK,
PERMANENT LEVELING**

*— installers waste no
time leveling Sanymetal
Compartments*

BUILT-IN JACKSCREW raises or lowers pilaster with micrometer accuracy. Adjustment is made permanent by tightening two bolts. It's easy, it's quick! Even more important, it's the most secure and permanent fastening in use.



STAINLESS STEEL SHOE held tightly to the floor under tension by concealed spring clips.



MANY quality construction features found in Sanymetal Toilet Compartments mean long service and extra economy. These features result from Sanymetal's 41 years' experience in manufacturing compartments. Be sure you get this quality.

A feature you should note is the jackscrew support built-into pilaster floor connections of Sanymetal Academy Compartments. By adjusting the jackscrew, the installer quickly moves the pilaster up or down, leveling the whole front. Locking nuts secure the level position permanently. This quick adjustment saves field labor. The permanently adjusted jackscrew carries the weight of the compartment to the floor; permanent position does not depend on bolts or screw connections which can slip.

This unique Sanymetal feature is one of many which make Sanymetal products leaders. Only Sanymetal offers all these features without extra cost. Ask your Sanymetal Representative to point out all features of Sanymetal quality construction.

See Sweet's or send for Catalog 92, describing all Sanymetal Compartments. If you wish, we will mail other advertisements of this series on quality construction details.

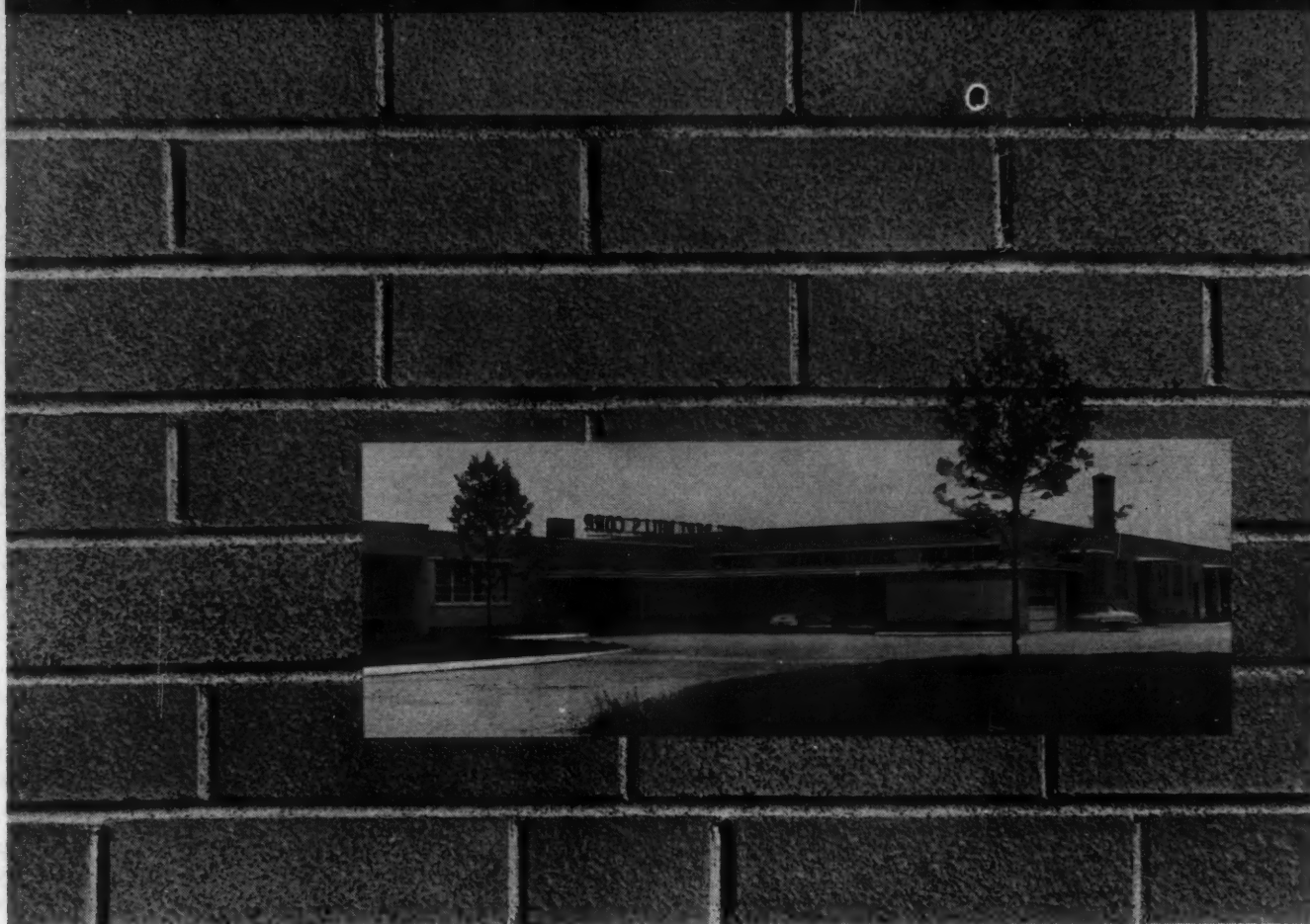
*This long-life feature is
STANDARD at no extra cost on
Sanymetal Academy Compartments.*

THE
Sanymetal

PRODUCTS COMPANY, INC.

1689 URBANA ROAD, CLEVELAND 17, OHIO

Architect WILLIAM T. HERZOG, Oak Park, Ill.
 Contractor JOSEPH T. CARP, INC., Chicago, Ill.
 Dealer W. R. BUCHANAN, West Chicago, Ill.



Bert Mills Corporation Factory and Office Building, West Chicago, Illinois. Close-up of wall shows "first quality masonry"

"... first quality masonry ..." WITH LEHIGH MORTAR CEMENT!

Following his yearly inspection of the Bert Mills Corporation Building, the architect, Mr. William T. Herzog, offered this report on Lehigh Mortar Cement.

"No volume changes appear to have occurred in the mortar joints, and during the progress of the work your mortar cement was found to have excellent workability and uniformity leading to a first quality masonry job."

And he concluded, "You are to be congratulated on providing us with a most satisfactory product."

It is this kind of satisfaction that explains why architects readily approve Lehigh Mortar Cement for all types of masonry.

Lehigh meets the most rigid mortar standards, U. S. Government Specification SS-C-181c, Type I and Type II and ASTM Specification C91-53, Type I and Type II, which include the autoclave test for soundness.



LEHIGH MORTAR CEMENT
 LEHIGH PORTLAND CEMENT
 LEHIGH EARLY STRENGTH CEMENT
 LEHIGH AIR-ENTRAINING CEMENTS

LEHIGH

PORTLAND CEMENT CO. Allentown, Pa.

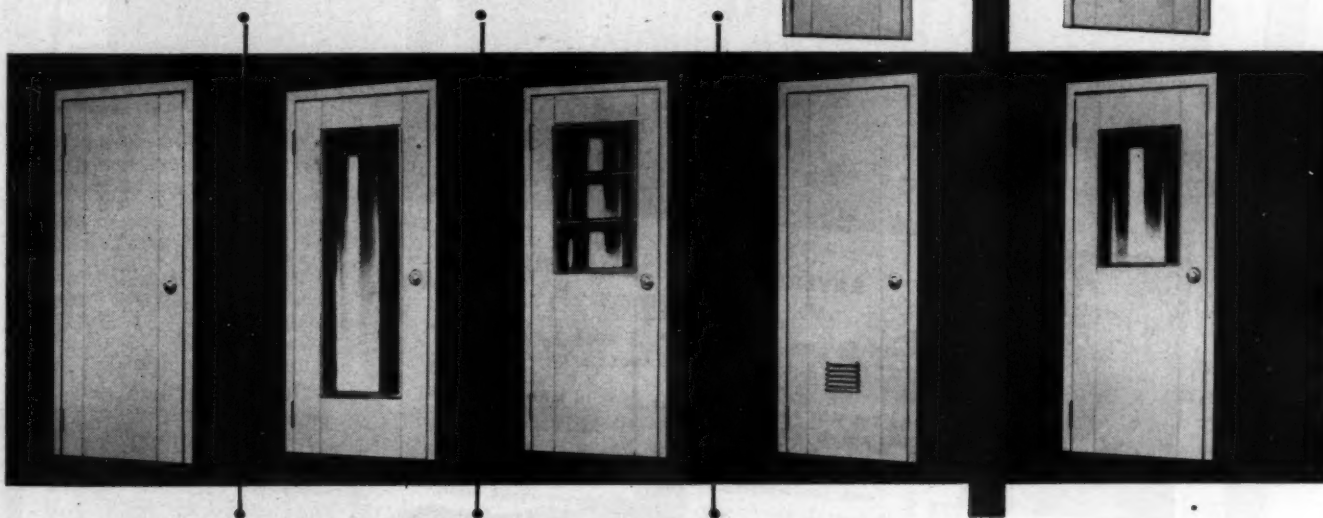
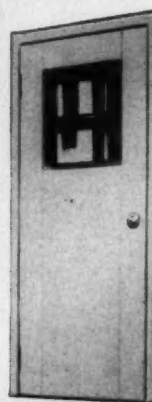
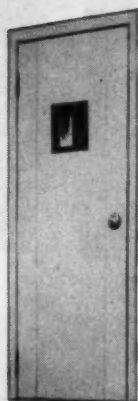
1 3/8" and 1 3/4"



WOOSTER *Metal* **DOORS** *and frames*

Standardized modular sizes
Precision mass produced

Fit all other Modular Building Materials
Hang or set without Adjustment
Take Hardware without Shimming



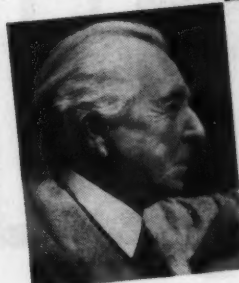
**Built to the industry's highest
standards of quality and precision**

FEATURED IN *Personalized Coronados* BY UNITED STATES STEEL HOMES INC.



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REVERE COPPER WATER TUBE SPECIFIED BY **Frank Lloyd Wright**

FOR THE HOT AND COLD WATER LINES IN MANY OF HIS RE-
CENT HOMES. AMONG THEM ARE THE HOMES LISTED AT LEFT.

You will find copper playing an important role in much of Mr. Wright's
work, both residential and commercial. What architects and
builders like about copper, from a utilitarian standpoint, are its
non-rusting and time-
standpoint copper
there is no
has all

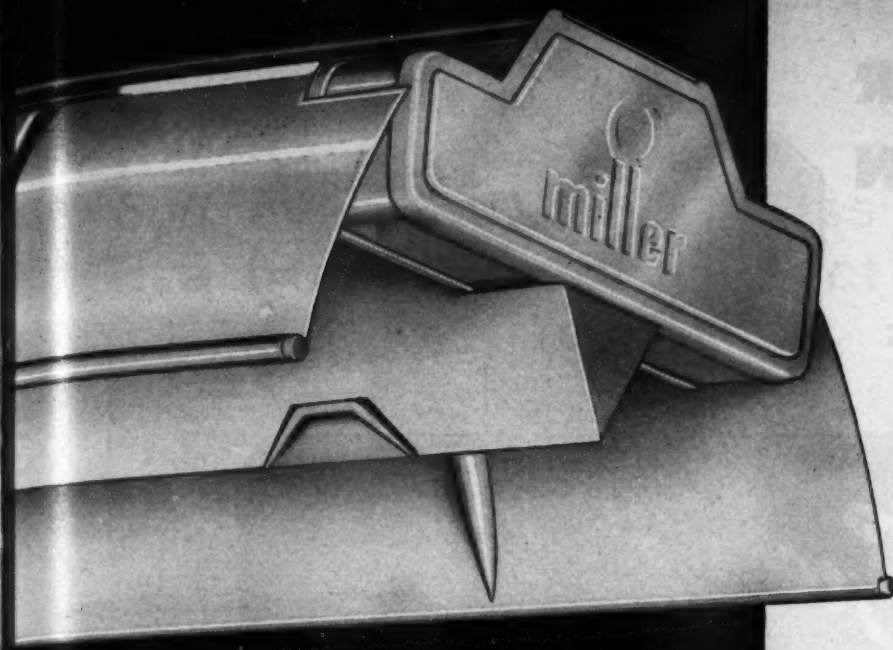
- The AFFLECK Residence
Bloomfield Hills, Mich.
(Illustrated)
- The ARNOLD Residence
Columbus, Wis.
- The AUSTIN Residence
Greenville, S. C.
- The LINDHOLM Residence
Cloquet, Minn.
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THESE REVERE PRODUCTS WILL
HELP MAKE YOUR HOME A
BETTER PLACE TO LIVE IN:

Revere Ware Copper-Clad Stain-
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Revere Foil • Revere Copper
Water Tube for radiant panel
heating, air conditioning, hot and
cold water, and service lines,
waste lines and vent stacks, lawn
sprinkler and snow melting sys-
tem, swimming pools • Revere
Copper Pipe for

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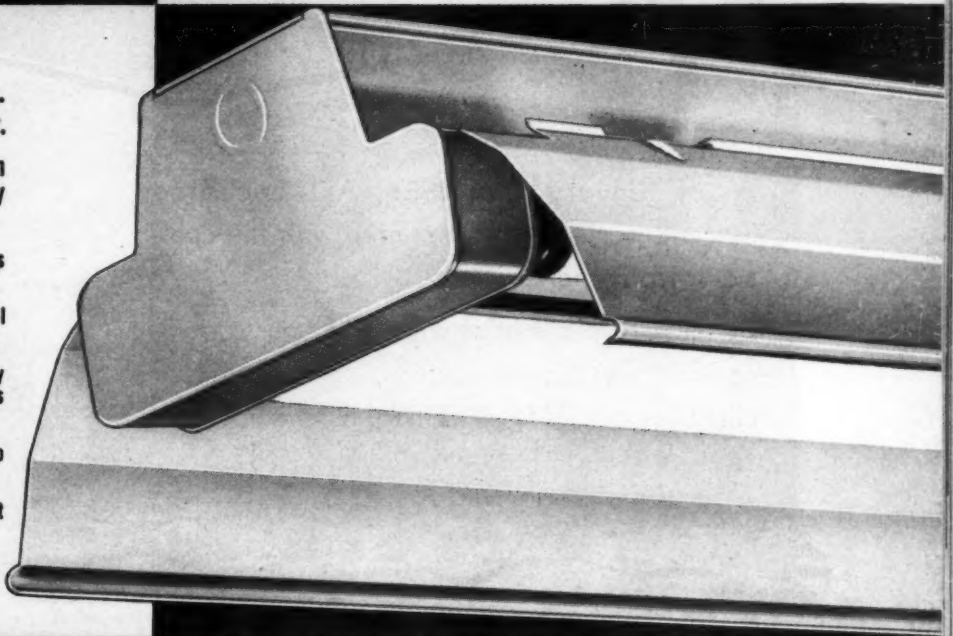
appeared in the
Frank Lloyd Wright issue of House Beautiful to help
build up a preference and acceptance by the home-
buying public for Revere Sheet Copper and Revere
Copper Water Tube in the homes you plan and build.
*Remember: It's easier, more profitable and
safer to sell the homes with the materials that
people know, like and can trust!*



NEW MILLER INDUSTRIALS MEET OR EXCEED NEW RLM SPECIFICATIONS

Charted below are 12 of the most important advances in the history of industrial lighting: the new RLM specifications for fluorescent industrial lighting fixtures. The new Miller "Industrials" meet or exceed these specifications in every instance! And that's not all! Many other "extra quality" features make this one of the finest industrial fixtures ever produced—good reason why it always pays to specify MILLER!

- 4 foot reflectors on 8 foot channels for one man maintenance—easy cleaning and changing of reflector.
- Super-rigid reflector and V-channel are stamped in one piece—with sealed rolled bead flanges and heavy reinforcing ribs, lifetime porcelain enamel.
- Extra-sized wiring channel designed for sliding clamp hangers or surface mounting.
- Miller Socket Box construction for easy, economical individual socket replacement.
- Heavy gauge pressure connector provides fast and easy assembly in continuous rows with positive electrical grounding. No screws to align.
- Extra large man-sized captive nuts for mounting reflectors to channel. No tools required.
- Special reflector aligner keeps uniform row alignment—seals light leakage between reflectors.



New RLM Specifications for:

	DIRECT	SEMI-DIRECT
1. ALL-WHITE PORCELAIN ENAMEL REFLECTORS (Inside and Outside)	Yes	Yes
2. INCREASED UPWARD LIGHT	5%-15%	20%-30%
3. MAXIMUM BRIGHTNESS	Yes	Yes
4. BETTER SHIELDING ANGLES	13°-14°	27°
5. HIGHER REFLECTION FACTORS	85%	85%
6. HIGHER LIGHT OUTPUT	83%	77%
7. CAPTIVE LATCHING and HOLDING DEVICE	Yes	Yes
8. GROUNDED BALLAST MOUNTING	Yes	Yes
9. CHANNEL DESIGNED for SLIDING HANGERS	Yes	Yes
10. REVISED LAMP SPACING	5"	
11. IMPROVED LAMP HOLDERS	Yes	Yes
12. ENTIRE UNIT RUST-PROOFED	Yes	Yes

RLM STANDARDS INSTITUTE INCORPORATED

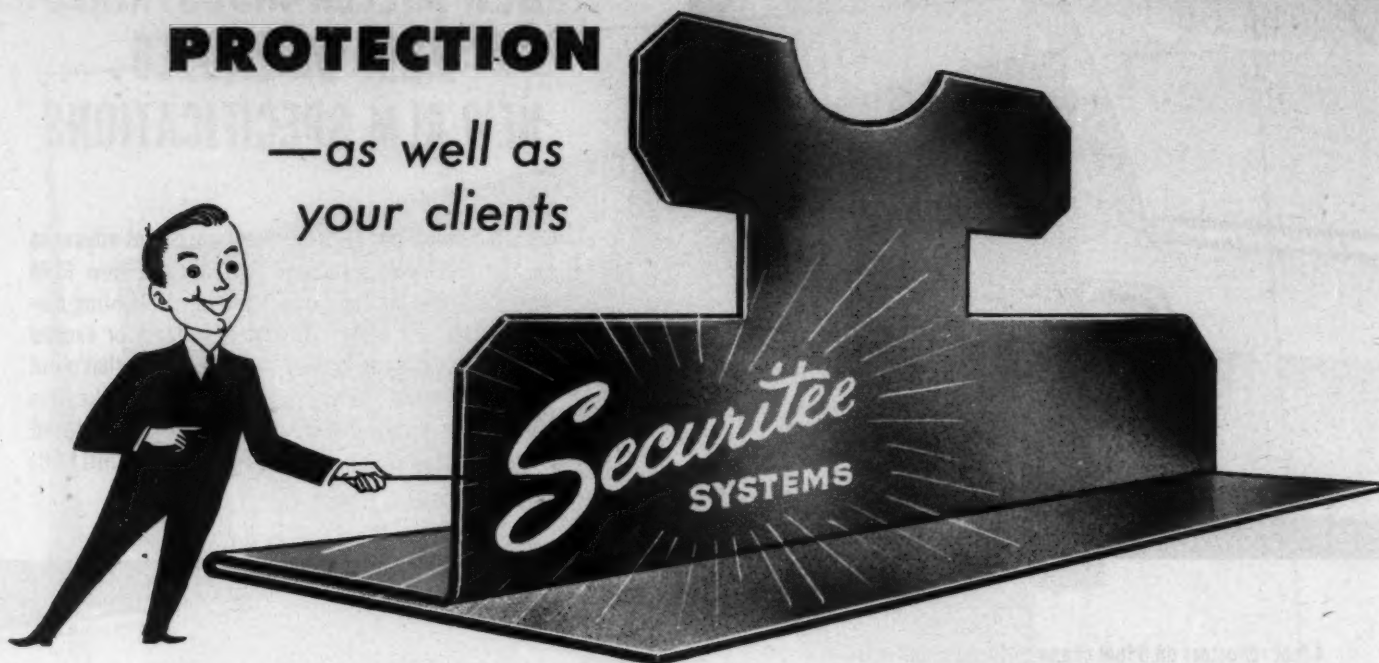
4' and 8' for 40w Rapid Start-Lamps
4' and 8' for 48" and 96" Slimline Lamps
4' and 8' for 48" and 96" High Output Rapid Start Lamps

miller
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THE MILLER COMPANY
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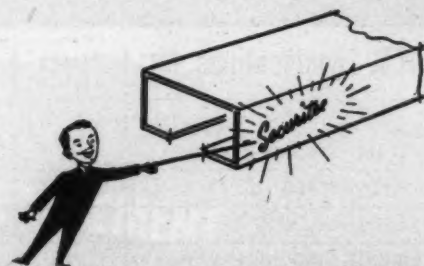
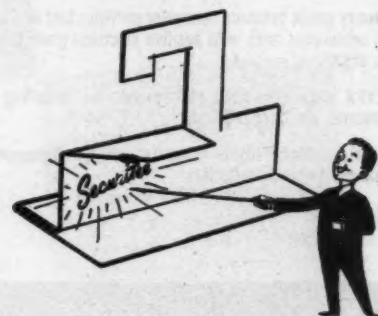
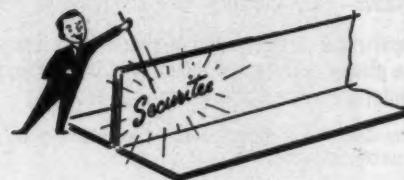
FOR YOUR PROTECTION

—as well as
your clients



As of January first, 1956, ALL Securitee Systems parts will be imprinted with the company trade-mark.

By making this imprint a part of your specifications, you assure yourself, as well as your client, of a quality acoustical mechanical system—WITHOUT ADDITIONAL COST.



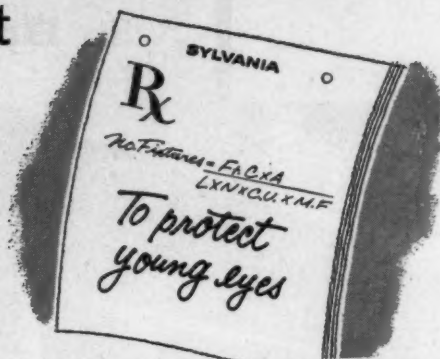
W. J. HAERTEL & CO.
832 W. Eastman St., Chicago 22, Ill.

*T. M. REG. U. S. PAT. OFF.

*
Securitee
SYSTEMS

Needed:

Soft, even, low-brightness illumination
...a true glare-free effect



Before and After. Washington High School (Washington, Pa.) installed a Sylvania-Aire low-brightness lighting system, greatly reduced glare in this classroom.

Prescription: Sylvan-Aire Wall-to-Wall Lighting System

When you look for soft, even, low-brightness illumination ... a true shadow-free, glare-free effect ... consider Sylvan-Aire lighting systems by Sylvania.

Sylvan-Aire provides a "flat sheet" source of light—not mere "spots"—greatly reducing direct and reflected glare. Unbroken rows of white corrugated plastic strips, 2 to 4 feet below the ceiling, get their low-brightness light from properly spaced fluorescent fixtures on the ceiling. They cover unattractive wiring, piping and fittings overhead. Optional V-shaped "Sono-Wedges" between rows (shown above) help reduce noise level, making Sylvan-Aire a new

3-way treatment of beauty, sight and sound!

Your school, too, deserves the better seeing and working conditions, the better reading and study habits, to be gained through proper lighting. For assistance with your school lighting problems, the Sylvania lighting specialist in your area will be glad to drop in for a consultation or group meeting at any time.

— SEND THE COUPON FOR INFORMATIVE BOOKLET —

SYLVANIA ELECTRIC PRODUCTS INC.
Dept. M20, One 48th Street, Wheeling, West Virginia

- ☐ Please send me your free informative booklet, "Some Whys and Hows of Modern School Lighting."
- ☐ Have a Sylvania lighting specialist call on me.

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**2 men close 3 classrooms per day ...
with Brown & Grist Window Walls**



**Specify Brown & Grist
Window Walls For:**

**Fast, Simple Erection
Savings in Construction
& Labor
High-Strength,
Light Weight
Beauty and Durability
Flexibility in Design
& Materials
Low Maintenance**

This two man team walled in 17 rooms in five days.

That's what George C. Griffin, local Brown & Grist representative, reports on his Lake Shore School job in Jacksonville, Florida. And on the next job he expects the same team will close FIVE rooms a day. That's the kind of performance you *too* can expect. Because Brown & Grist window walls are really "wonder" walls.

This new type wall construction is as solid as it is simple. It offers the beauty, quality and flexibility of custom design. Yet it goes up with the speed and ease of prefabs.

Wall installation costs on the Lake Shore School ran only 10 cents per square foot. Brown & Grist window walls give you such savings time after time.

Write or wire for full details. Brown & Grist engineers will work closely with you to meet *your* specifications.



BROWN & GRIST, INC.

25 Tyler Avenue Warwick, Virginia Phone 8-1599



Gallons of water condense on joists and flooring annually from unprotected crawl spaces. Keep it out permanently with VISQUEEN film.



Protect power tools and equipment, lumber, millwork, with VISQUEEN.



Use VISQUEEN film as a moisture barrier to keep water out of stud walls. No paint peeling or rot.



Keep moisture out of concrete slabs, keep floors from lifting or warping, protect household possessions, family health, with VISQUEEN film.

Banish water woes with VISQUEEN® film

Dollar for dollar, nothing does as good a job of keeping moisture and water under control as light, tough VISQUEEN film. It's the best *permanent* moisture barrier and waterproofing membrane under concrete slabs, around foundations or in crawl spaces. Prevents rot and musty odors. Keeps floors from warping. Lasts as long as the building.

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A roll containing 2000 square feet of VISQUEEN film 4 mils thick weighs less than 40 pounds.

Now, you can get VISQUEEN in widths to 32 feet.

important! VISQUEEN film is all polyethylene, but not all polyethylene is VISQUEEN. Only VISQUEEN has the benefit of research and resources of the VISKING Corporation.

VisQueen® film... a product of

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World's largest producers of polyethylene sheeting and tubing

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—UNIFORM IN BEAUTY, QUALITY AND PERFORMANCE.

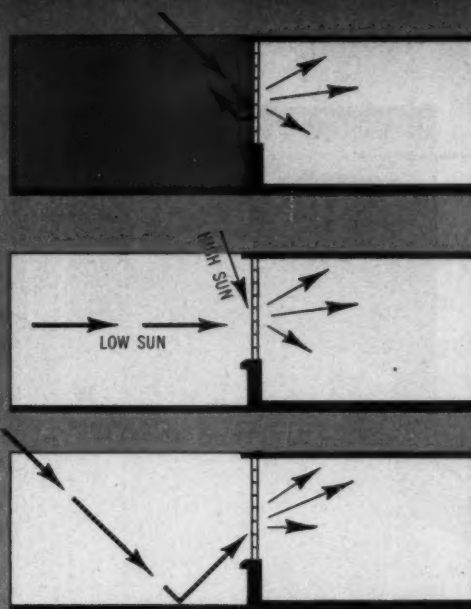
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Rejects hot summer sun—This diagram shows how the 80-F block reflects a major portion of the light from the sun at the critical 45° angle, thus reducing brightness and solar heat transmission during hot weather.

Uniform light transmission—Prismatic design is selective and controls the amount of light transmitted from various sun positions, thereby providing uniform light transmission all day long.

Transmits ground-reflected light—This diagram shows how the 80-F transmits the cool light reflected from the ground. This feature is especially important when the sun is not on the fenestration.



OWENS-ILLINOIS' NEW SOLAR- SELECTING GLASS BLOCK No. 80-F COOLER IN HOT WEATHER



Solar heat input is greatly reduced. In a test during hot weather—when the outside temperature was 90°—the room side surface temperature was 14 degrees less than that of a conventional type light-directing glass block.

Owens-Illinois' new solar-selecting Glass Block No. 80-F is superior to earlier light-directing glass block because:


1. It has a surface brightness less than half that of earlier types.
2. It transmits less solar heat and has a lower inside surface temperature during hot weather.
3. It is an efficient transmitter of ground-reflected light.

Illumination surveys show that maximum illumination on vertical surfaces occurs when the sun is at an altitude near 45°. It is this sun altitude position which produces maximum solar heat and brightness conditions on vertical windows or panels. Prisms within the 80-F block are designed to reflect a major portion of this maximum illumination.

For non-sun exposure, a companion block, the No. 80, is recommended. This

block is identical to the 80-F, except that it does not have a fiber glass screen. Therefore, it transmits a higher percentage of light.

Complete information available. Send for the free, technical bulletin that gives the details. Just write "No. 480F" on your letterhead and mail to Kimble Glass Company, subsidiary of Owens-Illinois, Department AR-12, Box 1035, Toledo 1, Ohio.

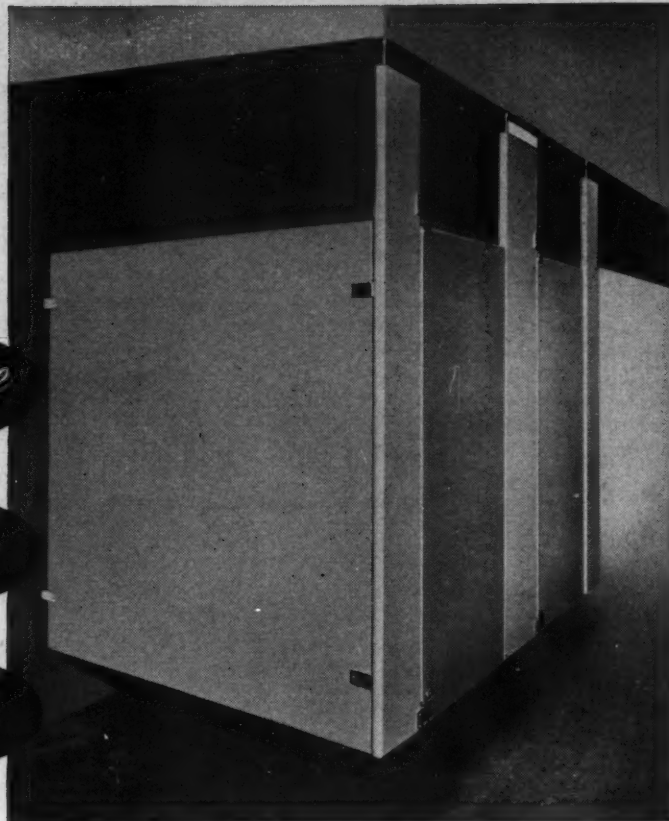
OWENS-ILLINOIS GLASS BLOCK
AN  PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

full gauge

full width

full finish



Nicholson Type AC Toilet Compartment. Ceiling hung. Ultra-modern. Sanitary.

Nicholson Metal Partitions

better built... for lasting service

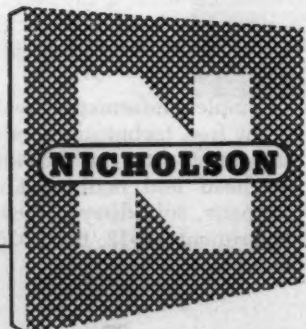
Only time will tell... whether or not the average toilet compartment will deliver long life and real serviceability. But Nicholson compartments give you "full" assurance right from the start—full gauge metals... full width partitions... full final finish. Nicholsons' are built to stand up and still stand out... even after years of steady service.

- heavier gauge steel: panels—full 20 gauge
pilasters—full 16 gauge
headrail and tubing—full 16 gauge
stainless steel plinth—full 20 gauge
- thicker partitions: doors and panels—full 1" thick
pilasters—full 1 1/4" thick
- extra protective coats: galvanized, bonderized coatings
zinc chromate primer
2 coats of synthetic baked enamel

Specify for lasting service. Specify Nicholson.

Available in the following types—and wide selection of colors:

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|-------------------------|----------------------|
| Type A—floor braced | Type AC—ceiling hung |
| Type AR—overhead braced | Type ARP—panel type |
| Type B—flush type | Type BP—panel type |



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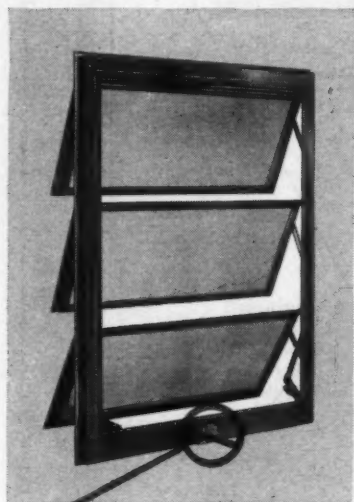
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Strip-proof cam-lock operator unlocks, opens and locks vents in any position up to 90 degrees . . . or . . . for night ventilation, lower vent opens slightly while upper vents remain closed and locked.

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Heavier extruded aluminum; meets all requirements for tensile strength; will never rot, rust or need painting . . . integral fin completely surrounds window, takes brick fin or fin trim.

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OR LIGHT CONSTRUCTION FILE 5A
UN

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*this roof deck is **9 ACRES** of insulation!*



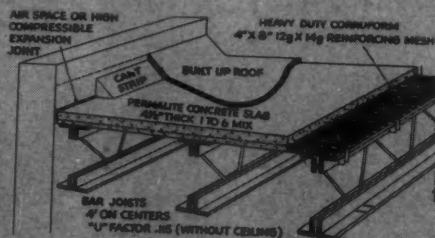
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PERMALITE lightweight insulating concrete was chosen for the 400,000 sq. ft. roof deck of the great S. S. Kresge Company Warehouse, Fort Wayne, Indiana, because it gave the required insulating value at the lowest practical cost.

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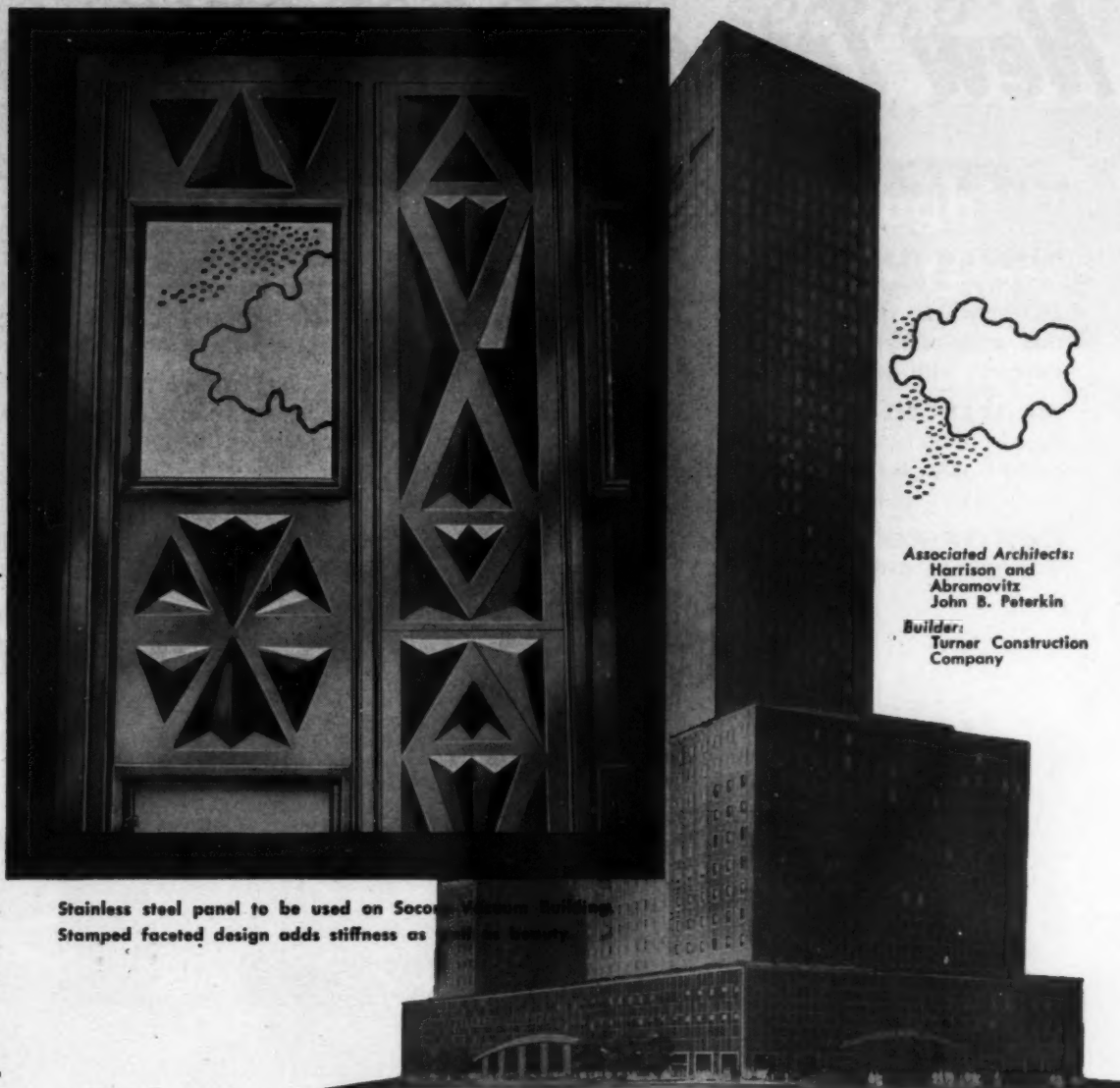


This deck construction is illustrated as Deck #4-51 in the Permalite Roof Deck Specification Manual.

If you would like a copy of this valuable handbook, get in touch with your local Permalite franchisee.



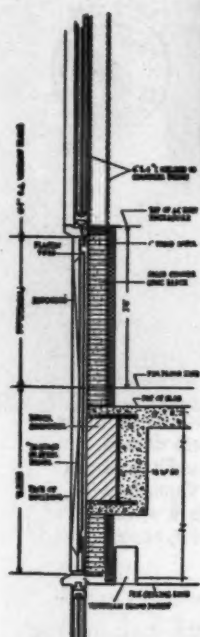
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Associated Architects:
Harrison and
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Builder:
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Stainless steel panel to be used on Socony-Vacuum Building.
Stamped faceted design adds stiffness as well as beauty.



Detail drawing
showing how
stainless
panels will be
installed.

STAINLESS STEEL ARMOR ...for a New York GIANT!

There's *extra* bustle, these days, in busy midtown Manhattan. It's caused by the construction of a new 42-story, 45-million dollar Socony-Vacuum Building . . . New York's largest in 25 years.

Most distinctive architectural feature of this robust giant will be its *stainless steel* skin. An armor of .037" thick 18-8 chromium-nickel stainless, type 302, was chosen for very *practical* reasons. Not only will stainless walls mean lasting beauty, but they'll save many tons of excess weight. For the stainless skin will weigh only 1½ lbs. per sq. ft., as compared to 48 lbs. per sq. ft.,

for a 4" brick exterior wall.

Crucible is one of several leading producers who are supplying the stainless steel for this skyscraper. When completed it will be the largest metal-sheathed office building in the world. In planning *your* next project consider the advantages of stainless. For helpful suggestions, write for your copy of "A Guide to Future Uses of Stainless Steel in Architecture and Building." *Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 30, Pa.*

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first name in special purpose steels

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Rated on the basis of 8.2 sq. ft. heating surface per boiler horsepower with guaranteed gross output based on 5.0 sq. ft. of heating surface per boiler hp.

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Factory tests assure high operating efficiencies.

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Full wet back construction of rear furnace walls (top, back and sides) eliminates rear refractory and recurring costs for maintenance and replacement.

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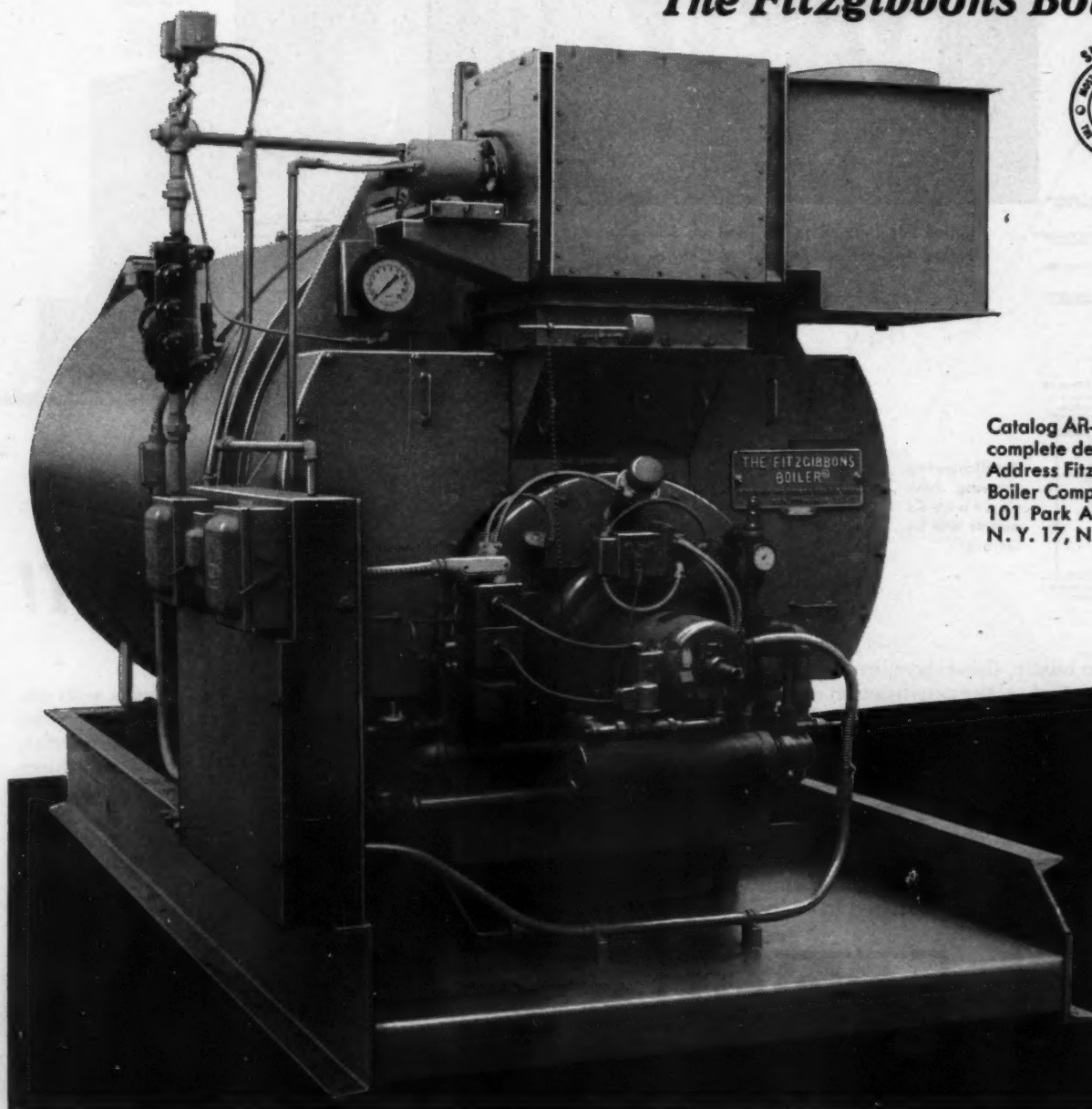
Latest and best control equipment for safe, sure operation with oil, gas or both.

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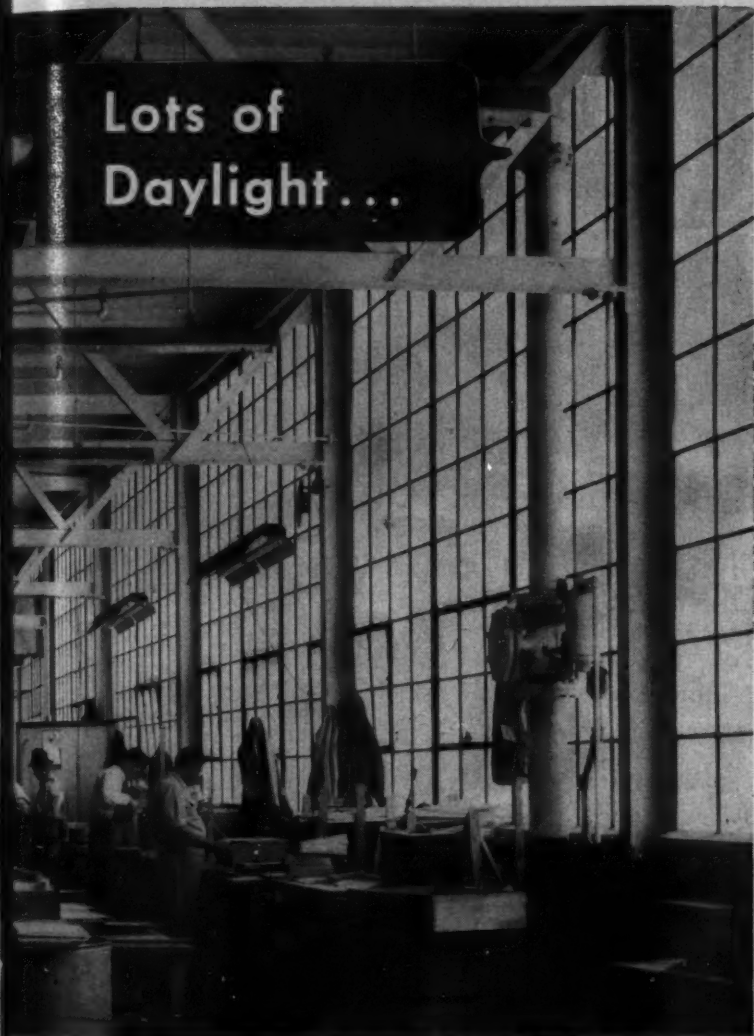
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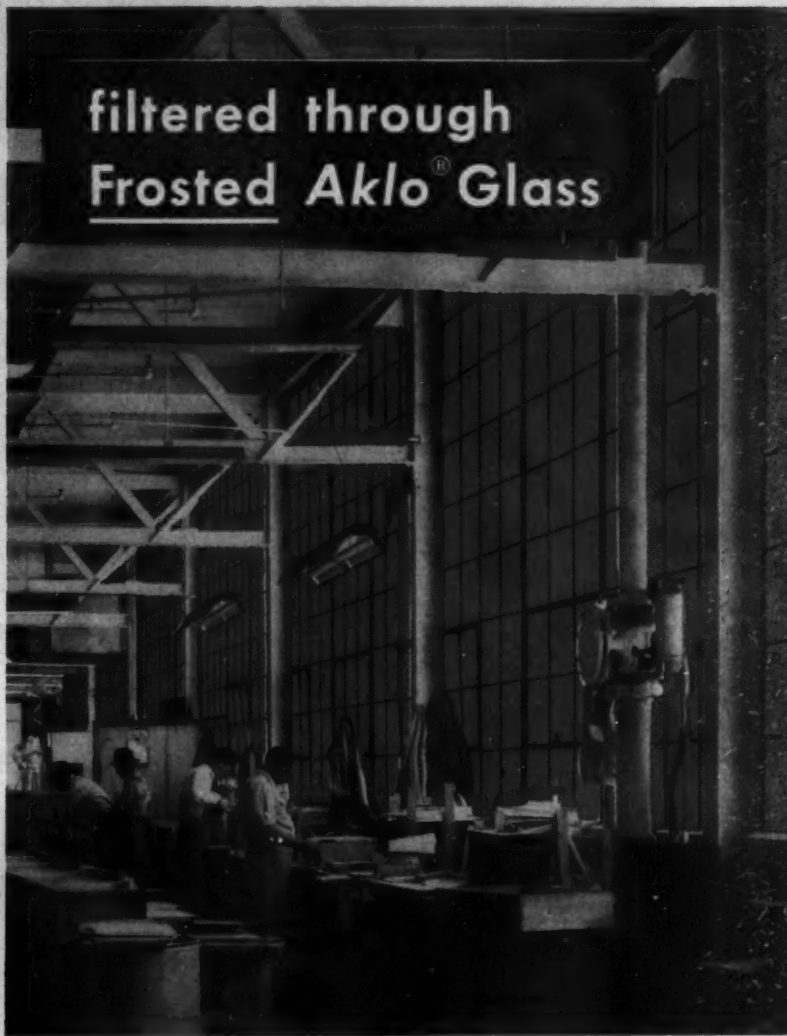


Catalog AR-12 gives complete details.
Address Fitzgibbons Boiler Company Inc.,
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Formula for good seeing:



Lots of
Daylight...



filtered through
Frosted Aklo® Glass

Take two things out of daylighting—glare and sun heat—and you have the finest light for good workmanship.

That's just what Frosted Aklo Glass does for you. It softens and diffuses direct sunlight, sky brightness and dazzling reflections. Rooms not only seem cooler behind this glass . . . they *are* cooler. *Aklo* Glass in $\frac{1}{4}$ " thickness shuts out as much as 44% of the sun's radiant energy.

These are good reasons why you see blue-green *Aklo* Glass in the window walls of so many of today's new buildings.

The pay-off? Greater comfort for occupants, better workmanship, better employe relations, reduced air-conditioning costs.

PHONE FOR THIS TEST



A call will bring a radiometer demonstration kit to your desk. It shows you how *Aklo* Glass reduces glare and sun heat. Call your L·O·F Glass Distributor or Dealer listed under "Glass" in the yellow pages of your phone book. Or write to Libbey-Owens-Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

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**FILTERS
DAYLIGHT**



Sprayed "Limpet" Asbestos on the ceiling of Charlie's Cafe Exceptionale, Minneapolis, Minn., provides a high degree of acoustical correction, contributing to the restful

atmosphere of this famous eating place. Four-time winner of the Holiday Magazine Award, Charlie's Cafe Exceptionale is considered one of America's finest restaurants.

For efficient control of heat and sound: Sprayed "Limpet"[®] Asbestos

There's nothing like it! If you're planning an office, restaurant, public building, industrial plant—any structure that calls for efficient control of sound and heat—you should know about Sprayed "Limpet" Asbestos, a unique self-bonding insulating material. "Limpet" is *sprayed* on with special machines to form a continuous felt-like coating that completely blankets ceiling or wall surfaces. There's no nailing, cutting, fitting, clipping.

Echoes are eliminated, annoying noise is reduced

drastically—trapped by thousands of pores between the "Limpet" asbestos fibers.

Costs are cut. An ideal thermal insulator, Sprayed "Limpet" Asbestos cuts fuel and air conditioning bills. Because it's all asbestos, it provides excellent fire protection.

Technical and application data available. See your *Sweet's Architectural File*. Write for additional information and the names of Sprayed "Limpet" Asbestos applicators in your area who have been approved and trained by K&M.

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Marvibond

...the unique process that combines the strength of metal with the wear-resistant beauty of vinyl film made from Marvinol® resins for...

**ULTRALITE
SAMSONITE
Luggage***



OF COURSE, YOU don't make luggage, but there is an idea in this suitcase you can probably use! It's the functionally-practical beauty of its vinyl finish inseparably bonded to the sheet magnesium from which the suitcase was formed.

The MARVIBOND Process—developed and licensed by Naugatuck—makes possible the bonding of sheets of specially-compounded vinyl plastic to sheets of steel, aluminum, magnesium or other metals. This plastic finish is easily wiped clean, resists wear, exposure, chemicals and oils. After laminating, the flat sheets can be formed, crimped, punched, drilled and sheared very much like ordinary sheet metal.

Just think of all the product applications for sheet metal with a color textured plastic finish... or for plastic reinforced by metal! The possibilities are limitless.

Typical uses for MARVIBONDED materials are wainscoting in hospitals, hotels, schools, offices, playrooms, bathrooms and kitchens; also for cabinets, shower stalls, shelving, office partitions, desk tops, machine housings, radio and television cabinets, house trailers and interiors for buses, automobiles, railroad coaches, airplanes and ships.

Does the idea ring a bell? Then contact us for the names of MARVIBOND† Process licensees who can supply you with Marvibonded laminates for your requirements.

*Made by Shwayder Brothers, Inc., Denver
†U. S. Patent Pending



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SURE OF *Ironbound's* QUALITY, SURE OF THE MEN WHO INSTALL IT

because . . . Only experienced and responsible firms are licensed to install Ironbound. They maintain a staff of trained engineers. Every installation is guaranteed by the installer and manufacturer.

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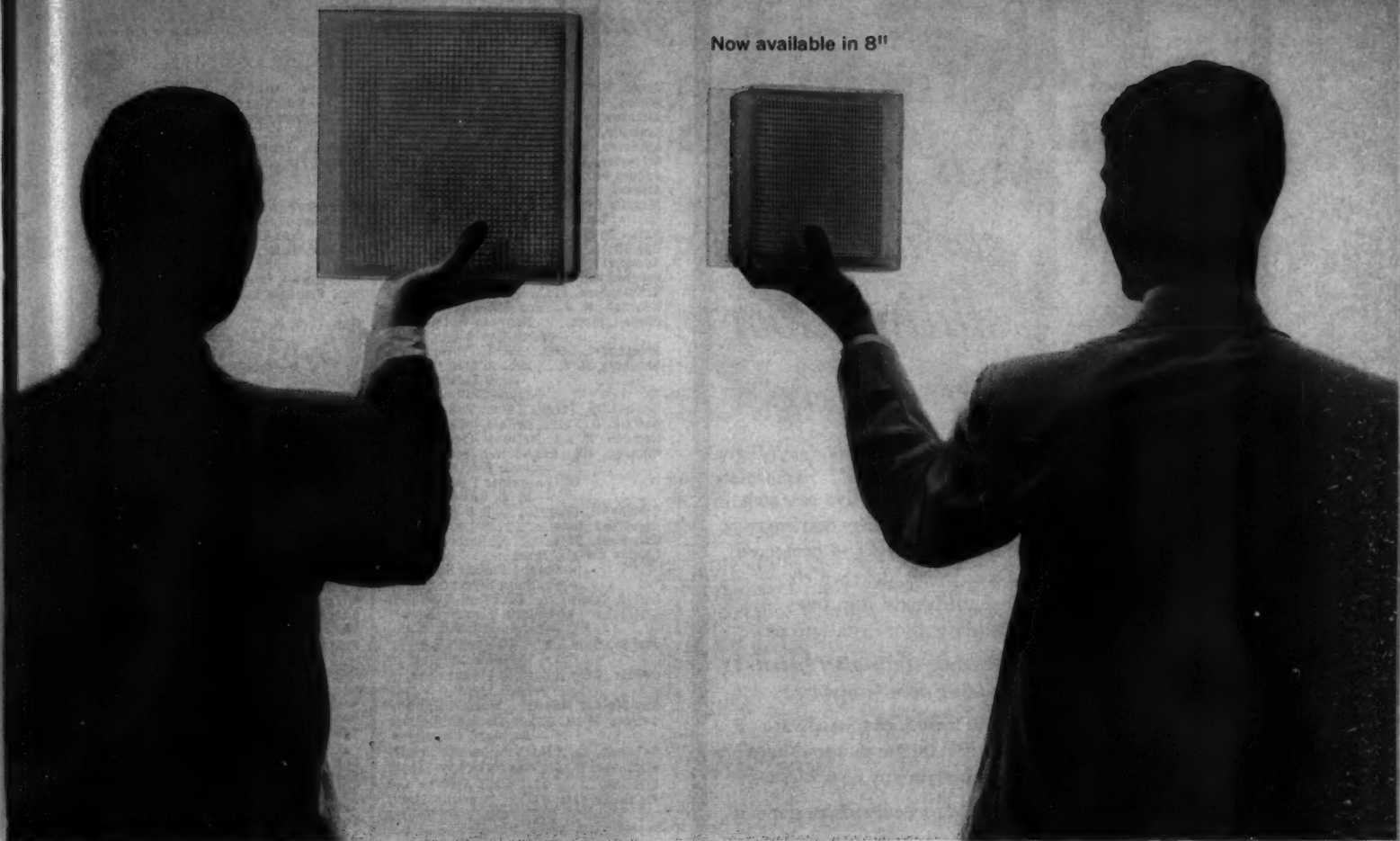
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First available in 12"

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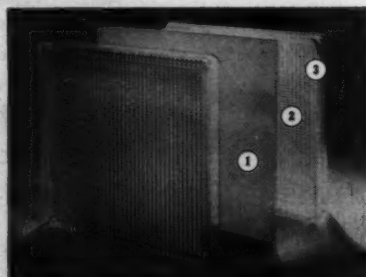


The block that says "*welcome*" to daylight... and "*keep out*" to heat and glare

When you hold a PC Suntrol Block up to an exposure where there is exceptional glare, you get an excellent demonstration of how this exclusive product answers difficult fenestration problems.

The picture above gives you a good idea of what you see. Notice that the *outer* faces of the Suntrol Blocks are *bright*, but on the inside faces, the raw light has been cut down to a soft, diffused glow. In addition to trapping glare, PC Suntrol Blocks reduce heat gain. To sum it up in percentages—glare reduced by 35% and heat gain by 25% compared to standard glass blocks.

Green, fibrous glass diffusing screen (1) filters light, reduces heat, divides block into two insulating cavities. Internal prisms (2) direct light upward, or diffuse it according to pattern. Exclusive Soft-Lite Edge (3) of opal glass eliminates glare through edge of block.



The glare and heat reducing benefits of PC Suntrol Blocks suggest a number of applications where light conditions are particularly severe . . . exposures facing paved school playground areas or overlooking white concrete parking lots, or locations where glare-creating snow lies on the ground for long periods.

PC Suntrol Blocks are available both in light-directing and light-diffusing patterns. Just recently an 8" size has been introduced to supplement the 12" unit to give the architect added design flexibility.

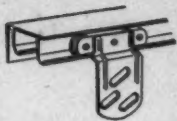
Write for more information. Address Pittsburgh Corning Corporation, Dept. C-125, One Gateway Center, Pittsburgh 22, Pennsylvania. In Canada: 57 Bloor St. W., Toronto, Ontario.

PC Suntrol* Glass Blocks

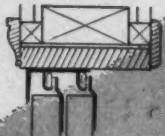


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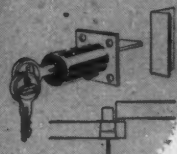
*Suntrol Glass Blocks are an exclusive PC product.



Satin Aluminum
Track with Apron—
Adjustable Hangers
With Nylon Rollers



Standard Header ..
Track Apron is Trim.
Only 1" Headroom



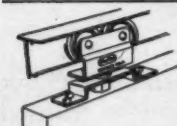
No. 1058 Lock
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Pocket Door T-Frame.
All Steel .. Warp-Proof



No. 700 Series
Track and Hangers
Specially Designed
For Pocket Doors

Sterling® sets the standard in sliding door hardware

Through extensive research and engineering, Sterling has pioneered and perfected many new ideas which simplify and improve sliding door installations.

Sterling is the most imitated sliding door hardware.

The new locks, hardware and T-Frame pictured here embody many new ideas.

Builders everywhere depend on Sterling Hardware for advanced design and trouble-free operation.

Specify Sterling Hardware for your sliding door installations.



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Architectural File • Light Construction File

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Des Moines, Iowa Weston Lighting
Detroit, Mich. Madison Electric
Dubuque, Ia. Crescent Electric Supply
Elizabeth, N. J. Merit Electric Supply
Erie, Pa. Kraus Electric Co.
Ft. Lauderdale, Fla. American Light
Ft. Worth, Texas Cummins Supply
Gary, Ind. Englewood Electric Supply
Hackensack, N. J. Capitol Elec. Sup.
Harrisburg, Pa. Fluorescent Supply
Hartford, Conn. Beacon Ltg. Supply
Hempstead, L. I. Prompt Elec. Supply
Houston, Texas Gross Elec. Supply
Huntington, L. I. Huntington Electrical Supply
Indianapolis, Ind. Romer Electric
Jackson, Miss. Stuart C. Irby Co.
Jacksonville, Fla. Porter Lighting
Jamaica, L. I. Central Queens Electric Sup.
Jersey City, N. J. Garfunkel Electric Supply
Kansas City, Kans. W. T. Foley Electric Supply
Lancaster, Pa. J. E. Graybill & Co.
Little Rock, Ark. Adcock Light. & Sup.
Longview, Texas Interstate Electric Co. of Texas
Los Angeles, Calif. Gruen Lighting
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Milwaukee, Wis. Forrest-Syvertsen
Minneapolis, Minn. Chas. A. Anderson
Mobile, Ala. F. E. Smith Elec. Supply
Newark, N. J. Peerless Elec. Supply
New Haven, Conn. Grand Lgt. & Sup.
New Orleans, La. Electric Supply Co.
New York, N. Y. Garfield Electrical Supply
Oklahoma City, Okla. Hunzicker Bros.
Patterson, N. J. Spivak Elec. Supply
Pawtucket, R.I. Rockland Elec. Sup.
Philadelphia, Pa. Ace Ltg. Fixture
Pittsburgh, Pa. Argo-Lite Studios
Portland, Ore. Malloy-Robinson Co.
Poughkeepsie, N. Y. Electra Supply
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Ridgely, Md. Vee Dee Electric Supply
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Rockford, Ill. Englewood Elec. Sup.
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San Antonio, Texas Electric Distrib.
San Francisco, Calif. Calif. Elec. Sup.
Seattle, Wash. Seattle Ltg. Fixture
Shreveport, La. Interstate Electric
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Toronto, Canada Ideal Electric Sup.
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Tulsa, Okla. Louise Gillam
Union City, N. J. Surrey Electric Sup.
Washington, D. C. Maurice Elec. Sup.
West Chester, Pa. West Chester Electric Supply
White Plains, N. Y. Wolar Lighting
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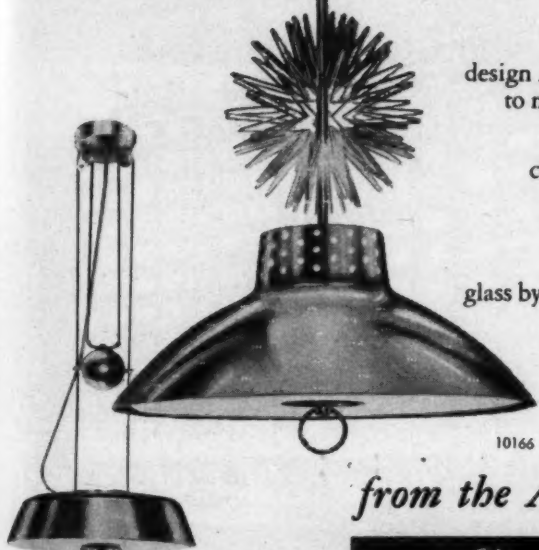
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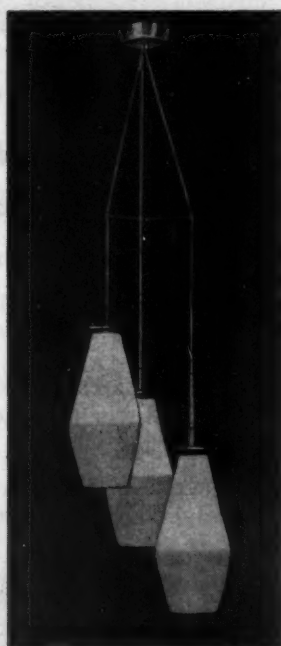
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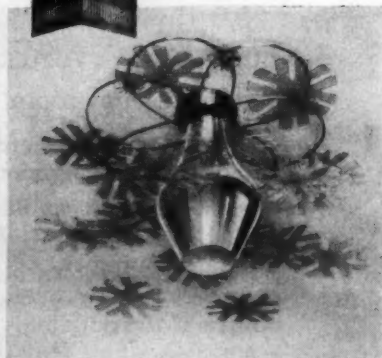
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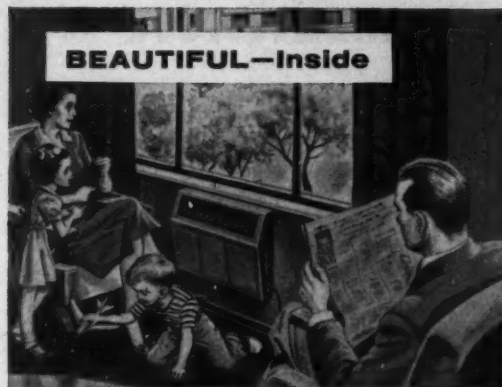
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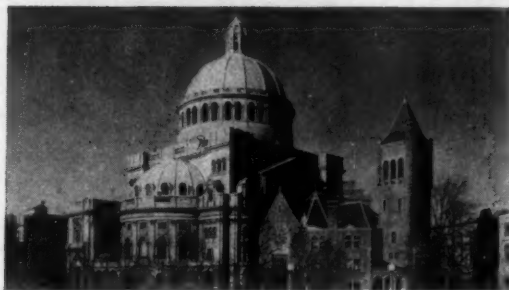
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Architectural Terra Cotta, in a buff gray, was specified for dome, ornamental band above dome, and complete cupola.



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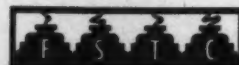
BYZANTINE RITE SEMINARY CHAPEL

Greek Catholic Church
PITTSBURGH, PA.

E. J. Hergenroeder—Architect

Brusca Bros. Inc.—Contractor

Architectural Terra Cotta units in gold and cream were specified to give character to the finial.



RCA Cherry Hill Project, Camden, New Jersey

Architect: Vincent G. Kling

Architectural Consultant: I. M. Pei

General Contractor: Turner Construction Company

Acoustical Contractor: Berger Acoustical Company



To provide quiet surroundings for public exhibitions, a ceiling of Armstrong Travertone was installed in the RCA Hall of Progress. Travertone is easily cut and fitted for economical installation with overhead lighting fixtures.

Designed for Economy—Sound Conditioned for Comfort

It took more than two years of intensive research to determine the design of RCA's new Cherry Hill Project. Both multi-story and one-story construction had shortcomings for RCA's widely varied operations. The best solution was a compromise of five interconnected buildings — each two or three stories high — with equivalent floor space of a 35-story skyscraper.

Contemporary design was used to help reduce construction time and costs with a minimum of easy-to-maintain materials. To provide beauty as well as quiet, sound-muffling ceilings of Armstrong Travertone and Cushiontone were used extensively throughout the buildings.

In the office areas and Hall of Progress,

Travertone, a mineral wool tile, was installed. Travertone is an attractively textured material that absorbs up to 80% of the noise that strikes it. Completely incombustible, it meets all fire-safety codes.

Areas containing business machine installations are kept comfortably quiet with ceilings of Armstrong Cushiontone. High in efficiency, this perforated wood fiber tile is remarkably low in cost. And its modern, Full Random pattern of perforations blends well with the contemporary styling.

To save on construction costs, Cushiontone and Travertone were cemented directly to the concrete ceiling slabs. Both materials are easy to keep clean. They can be repainted readily and economically

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Get complete data on Travertone, Cushiontone, and the full line of Armstrong sound-conditioning materials from your Armstrong Acoustical Contractor. For your free copy of the booklet, "Armstrong Acoustical Materials," write Armstrong Cork Company, 4212 Rock Street, Lancaster, Pa.

Armstrong

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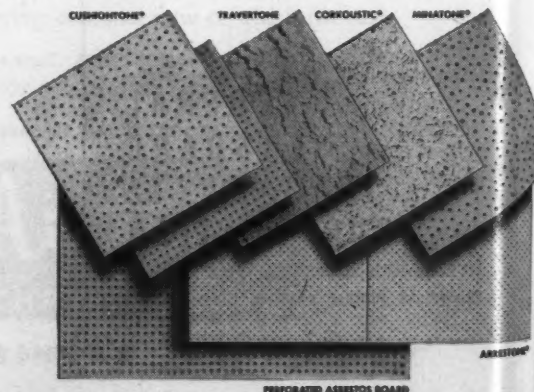
Cushiontone® • Travertone® • Minatone® • Arrestone®

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*TRADE-MARK



To quiet large areas economically, architects often select ceilings of Armstrong Cushiontone. In this general office space, Cushiontone prevents the noise of many business machines from building to disturbing levels.



THE MEANING OF REGIONALISM IN ARCHITECTURE

By Pietro Belluschi

*Dean, School of Architecture and Planning
Massachusetts Institute of Technology*

**"... it is no longer easy to achieve
beauty by the same way in which old
societies did... now we have a larger
and more difficult order to achieve,
and our spirit will shine through
only if we are true to ourselves and
never forget that it is man that we
must serve"**



IN AMERICA we often think and speak of "regionalism" as a naive and rather soft-headed variation of our architectural mainstream. Modern architects believe that the regionalists indulge in their practice at their own risk since it runs counter to the contemporary production-line philosophy of architecture. I have often wondered myself about "regionalism," what its real meaning might be and whether it could still be practiced in the matter-of-fact world of the machine.

I have thought of it with particularly deep feelings during my frequent trips in foreign lands where examples of regional architecture are more obvious against the very drab and standardized background of the straight, no-nonsense type of architecture which is being built with appalling sameness from Bagdad to Rovaniemi. No one who has traveled abroad can fail to speculate on the causes which had given such unity and beauty and a sense of fitness to almost all the old cities, and on the reasons why modern man seemed to have lost this ability to impart character and meaning to his environment.

But first, what do we mean by "regional architecture?" I find it difficult to give a short answer to this question, because as one thinks beyond the obvious relationship of buildings to a certain region, the meaning of the term seems to spread and touch on all that man is and believes in, as a creature of his own environment. Architecture, as a reflection of man's longing for order and for adjustment to his natural surroundings, has always been (or at least until not long ago) regional in its essence and character. In the past it has been mostly a communal art, not produced by a few intellectuals or specialists, but by the spontaneous and continuing activity of a whole people with a common heritage, acting under a community of experience.

The awareness of man's physical world evolved through uncounted millenia of close contact with nature. At first, as his legs set the range and speed of his mobility, the meadows, the streams and the trees gained emotional meaning on a scale which was his own to comprehend; as mobility increased, nature lost some of its intimate reality. Locomotion by machine brought in a restless age; man can now cover the earth at great speeds, but his comprehension has lost in depth what it has gained in breadth. He can now see enormous landscapes, whole ranges of mountains and rivers by day, and beautiful patterns of city lights by night; but none of these sights can give him the direct response which his heart so fondly desires when he is at rest.

One may well speculate on the relationship between the unfolding of this era of human civilization, and the shortcomings which many people feel in our architectural forms and certainly in our squalid environment. The old forms which constitute what we call regionalism express the more serene times of the past. It is certain that in our tumultuous times it cannot be revived. It would be impossible for us to retreat or escape from a world in evolution, but somehow we must believe that a society of men may gain in wisdom by seeking again the things man can understand and love, and conversely by learning to love all that lives near him. These were my Utopian thoughts as I was revisiting recently the exquisite little villages of the Aegean and Tyrrhenian Sea Islands, of Brittany and the Tyrol, and remembered how my generation was once somewhat ashamed to admit the delight in their simple spontaneous architecture lest it be tagged as romantic.

This point of evaluating the architectural characteristics of a region became more than an academic question when the State Department through its Foreign Buildings Operations asked Henry Shepley and me to go to India, Pakistan, and Iraq to discover the elements of a style which would be appro-



"... architecture, as a reflection of man's longing for order and for adjustment to his natural surroundings, has always been ... regional in its essence and character. In the past it has been mostly a communal art ..."



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Photographs 1, 2 and 4 from *L'Habitat au Cameroun*, published by the French Office de la Recherche Scientifique Outre-Mer. Photograph 3 from "M'Pogga," by Betty Spence and Barrie Biermann, *Architectural Review*, July, 1954



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appropriate for the embassies soon to be built in those regions. It so happened that the design which Ed Stone had conceived for the New Delhi Embassy had been looked upon with disfavor by the Department because it did not look sufficiently "Indian." This was a very interesting point because it touched the very essence of our architectural dilemma. Could an "Indian" architecture be defined; and if it could, should America build its Embassy in such a "style"; and if it did so for India, should it also do it for all other countries where new buildings were to be erected; and how would one go about measuring the regional content of architecture?

These were challenging questions, and it was not only appropriate to think about them in regard to the foreign buildings program but it seemed to me to touch upon a very sensitive segment of the architectural thinking of our generation—not that such a thinking can be easily described. In fact, if one should have the patience and fortitude to read all that has been written by critics, kibitzers, social moralists, and by the professional geniuses with a gift for arrogance, one would be thoroughly confused. We have functionalism versus estheticism, eclecticism versus purism, technology versus humanism, and organic architecture versus package architecture.

If one can resist the temptation of giving simple answers to a very complicated business, or of placing things into neat pigeonholes, he will find it wiser to accept the complications of modern life and will try to analyze the motives which impel civilized man's actions in order to discover what architecture means to him now. It is not easy to abstract ourselves from our time, but few will disagree with the general statement previously made that man's present environment is a far cry from that of older societies when men seemed to know how to build in serene response to the land and its people. Was there a conscious and willful sense of the beautiful in the builders of these old villages and towns, or was it rather the rhythm of their happy lives which was simply and inevitably expressed in their construction?

Our world now has undergone enormous changes; the traditions slowly developed through the centuries, the old allegiances and restraints have largely disappeared; the community living which was the pattern of old societies no longer exists, at least in the same form. Today it seems almost impossible for us to act with the unity and dedication of older times. There are too many forces in our social fabric, too many demands, too many disrupting influences. We have suddenly become conscious that this is one world, and the problems of other lands and other people have become our problems; but for all that we have succeeded rather in losing touch with our own people, our own small, close-at-hand world whence our deepest emotions spring. We know so much but feel so little. Our emotions are second hand; they come through books, movies, radios, television, in world-wide uniformity. We have gotten more and more away from nature and from the discipline which nature requires. A rain or snow storm or a strike leave us stranded and helpless. We no longer stop to listen or to hear or to see, but travel at 50 or 200 miles per hour through an impersonal landscape in unhappy restlessness. Our knowing so much and seeing so many unfelt images has drowned our sense of the appropriate. Our elegant magazines will sell pretty pictures to entice people in Maine or Florida or Oregon or Pakistan. Under those conditions it is difficult to achieve convincing and heartfelt unity.

Some people think that the architect should be less concerned with being original and more intent on satisfying more basic human values. Yet besides being an artist capable of choosing between the superficial and the real and of feeling himself part of his society, he must also be a good technician; and I believe that architectural forms which are not born of the peculiar demands of

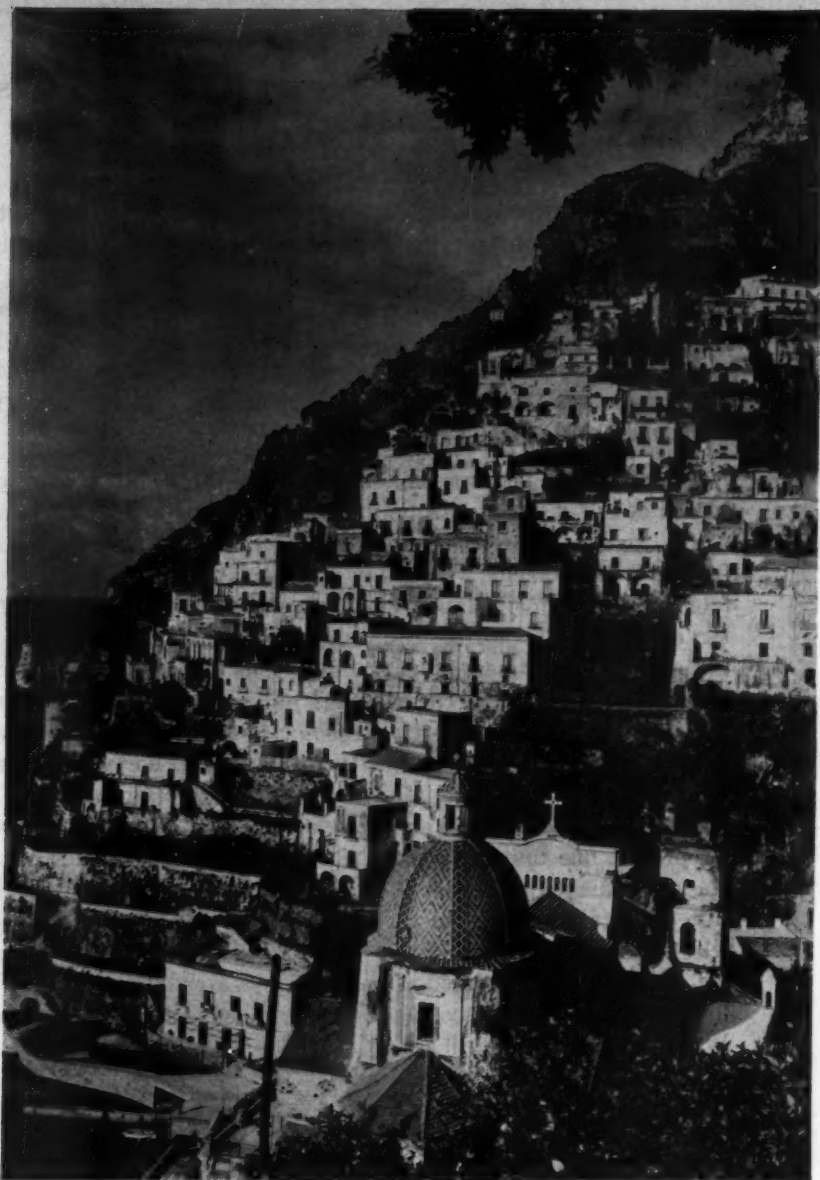
"... the awareness of man's physical world evolved through uncounted millenia of close contact with nature... man can now cover the earth at great speeds, but his comprehension has lost in depth what it has gained in breadth..."



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5. Photograph of Positanese fisherman by Paul Pietzsch, *Black Star*. 6. Urbino, Italy. 7. Positano, Italy. 8. Scilla, Italy. Last three photographs by Samuel Chamberlain

the job to be performed, but which come out of preconceived esthetic theories alone, will be in constant danger of becoming artificial, tricky, and fashionable, and their transitory quality will be even more evident after they have gone out of fashion. This means that not only the emotions but also mind and logic must be satisfied before lasting values may emerge. That is also why there is never real Beauty in the lie, in the fake, or in the blind copying — and why forms will shine when they reflect a sense of reality, and reality cannot easily be contrived.

Thus it would be impossible to ignore all the techniques which science has placed at our disposal; not only would it be impossible but it would be silly, so that again the architect must use his judgment and common sense if confronted with problems which only advanced techniques can solve. It would be foolish for him, for instance, to tackle the design of a skyscraper as he would the design of a house. He can only ask himself if other means can be found rather than skyscrapers to house offices, but this is not for him to decide; similarly in modern factories the human requirements are becoming as important as structural and functional requirements, but the architect will not necessarily design a romantic environment to satisfy them, nor would it make sense to carve out the Rocky Mountains as a New Egyptian Valley of the Kings to house the Air Academy so as to give it the flavor of the region. On this particular project one may question the appropriateness of using vast amounts of glass, but the juxtaposition of crisp, clean, business-like structures on a mountain landscape can be justified by sound esthetics — but more so by the strictly disciplined around-the-clock life which 2500 cadets must live while being educated and trained in the waging of aerial warfare. It seems impossible for us to draw laws and conclusions which cannot be challenged on some point. We crave change even if we fear it. The creative artist feels that emotions can be communicated with more eloquence if he can forge his own expressive symbols, if he can use his own language; but even language or the words which the poet uses in moving and significant ways did not grow in a vacuum nor were they invented at a stroke. They had roots and grew slowly into meanings, which in turn became both stimuli and limitations to the user but which were never detached from some human connotation, some habit of thought, which was the point of departure of the poet's language.

Similarly, an architect's creative powers need not act in a vacuum; they are nourished by the world he lives in, by the people he knows and with whom he must deal, by the things he sees and the things he has learned, and also by old symbols and forms. Thus the greater his understanding the greater scope will his creative powers have, and within such sphere his contributions will have lasting significance. Believing this, we should not attempt to formulate a rigid intellectual program for architecture. In a way we must accept the enormous variety of situations which our age has created and try to find solace in the thought that nature has evolved the weed and the orchid, the whale and the mouse, the eagle and the humming bird, from a wonderfully complex but orderly set of things.

We may find reasons to hope for an improved set of social values for mankind, but our creative struggle will never come to an end because the human mind, which reflects and recreates, feeds what it touches and in turn is nourished by what it sees, will always make architecture a dynamic, expressive force which should be allowed to grow to flourish, even to decay when need be. As an Art it will strive for roots and continuity but will not deny to the man of genius the right to innovate if that is his moment and if his voice rings true.

So it is well for us to admit that it is no longer easy to achieve beauty by the same way in which old societies did, because there is no longer a scale of



"... was there a conscious and willful sense of the beautiful in the builders of these old villages and towns, or was it rather a rhythm of their happy lives which was simply and inevitably expressed in their construction?"



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9. Photograph by Nora Dumas, Black Star.
10, 11, 12, 13. Photographs of villages in the
Brittany section of France, by Samuel Cham-
berlain — 10. Primel-Tregastel; 11. Surzur;
12. Locronon; 13. Finistere



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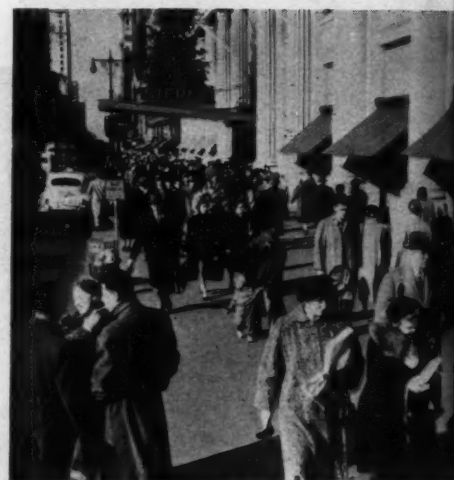
unity which will allow for it. Now we have a larger and more difficult order to achieve, and our spirit will shine through only if we are true to ourselves and never forget that it is man that we must serve.

There are cases when regionalism can still be obtained by thoughtful self-imposed discipline, by a submission to certain traditional ways, by a humility of approach, and in rejecting show and change and experiment unless for a good cause. But Regionalism at its best cannot be measured or imposed, is not a school of thought but simply a recognition within its own sphere of what architecture is to human beings, a deep regard for their emotional demands, and this need not be forfeited even in the most practical demands of a project. For instance, Jose Luis Sert by his plans for the Embassy in Iraq has shown us how a great modern artist can use his gifts toward a sensitive version of a regional architecture which is both creative and appropriate.

It was also with a deep thrill that we perceived how sensitively had Stone understood the real essence of India, how subtly had he incorporated in his design for the Embassy the things which really belong to the region — details and features developed through the centuries, through the demands of a hot climate, the habits and love of a people. He did not copy but brought his sympathy and his understanding to bear upon his creative powers. Finely perforated grills, roof overhangs, water pools, serene proportions, exquisite materials upon which the shades and shadows could play, were to be seen in many humble places and in great monuments in the hundreds of miles Mr. Shepley and I traveled by car. Indeed we could report back that the Stone design was really suitable for India, even if it did not conform to the style called "Indian" which was imposed by that gifted architect, Lutyens, who early in this century attempted to graft Moslem externals onto a thoroughly monumental Western style loaded with all the large scale symbols of power which a Colonial empire could bring to bear on a subject people. The "Indian" style may have been politically appropriate when it was introduced and had scale and beauty of a kind, but it had little to do with Indian climate or tradition. It took an artist like Stone to express with a sure hand a renewed sense of the region. I felt great elation to think of the possible influence which such design may have on the local architects. I met with many of them and with the students of the school in Delhi. I saw their works and heard their words and felt that they were anxious to find native expressions, but Western influences were too strong and too disrupting, and few had the wisdom or the maturity to break through with work which would reflect their new status as an independent nation, a synthesis of their old culture, and of all that they had so far learned of new ways and techniques.

Unfortunately, throughout the Eastern countries we visited, architecture is a superficial imitation of the more obvious western forms. Local conditions of labor, climate, and site are largely disregarded, and the solutions are sad indeed. In Bagdad, a city with romantic connotations to the average American, we saw the most atrocious building of the juke-box style being erected in the main street. It was done in cheap materials, with unbelievably bad and unworkmanlike details — a most disheartening proof of what can happen when old traditions are discarded for standards which are neither understood nor loved. And this is happening not only in Bagdad or in Agra or in Karachi but in Italy, in France, and even in Finland, wherever reconstruction of bombed out areas has taken place.

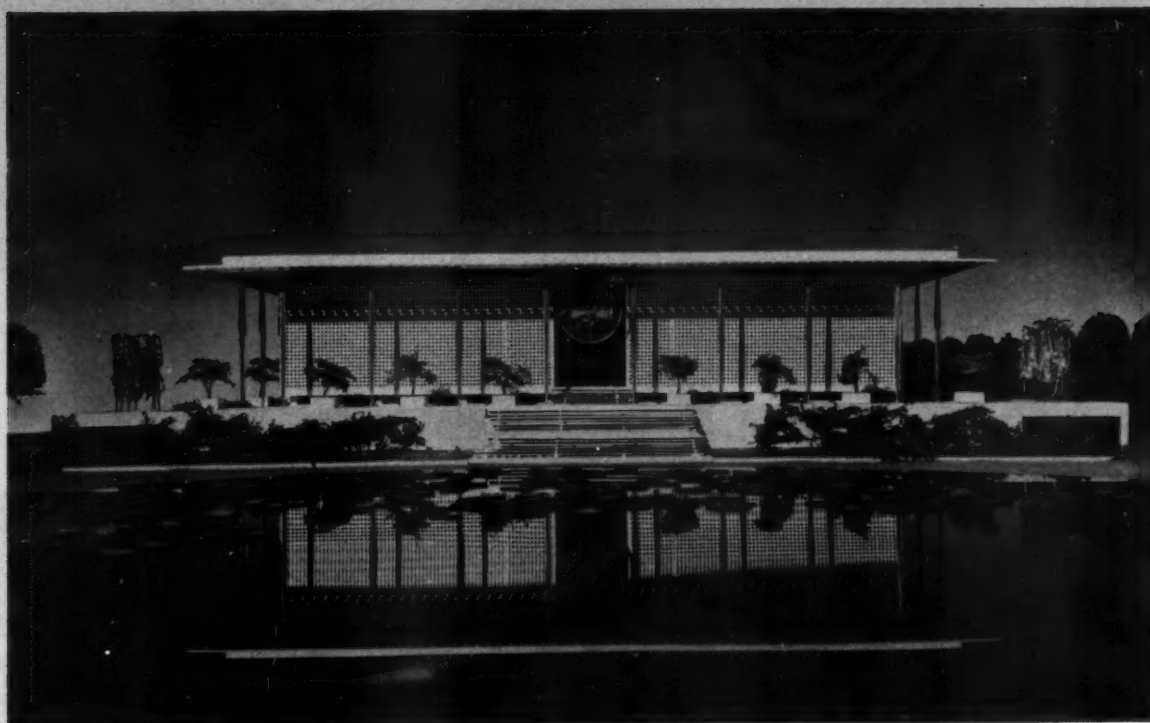
The plea which we can make then is not that we go back to what once was, not that we become romantic, but that we face creatively as free spirits and in deep honesty the complexities of our modern world, yet never forgetting that man is the measure of all values.



14

"... the plea ... is not that we go back to what once was ... but that we face creatively as free spirits and in deep honesty the complexities of our modern world, yet never forgetting that man is the measure of all values"

16



"... he did not copy but brought his sympathy and understanding to bear upon his creative powers . . ." Design for American Embassy at New Delhi, India, Edward D. Stone, architect

Photograph credits: 14. Ewing Galloway; 16. model by Theodore Conrad, photograph by Louis Checkman; 17. Photograph by Fred J. Maroon

"... a sensitive version of regional architecture which is both creative and appropriate . . ." Design for American Embassy for Iraq, Jose Luis Sert, architect

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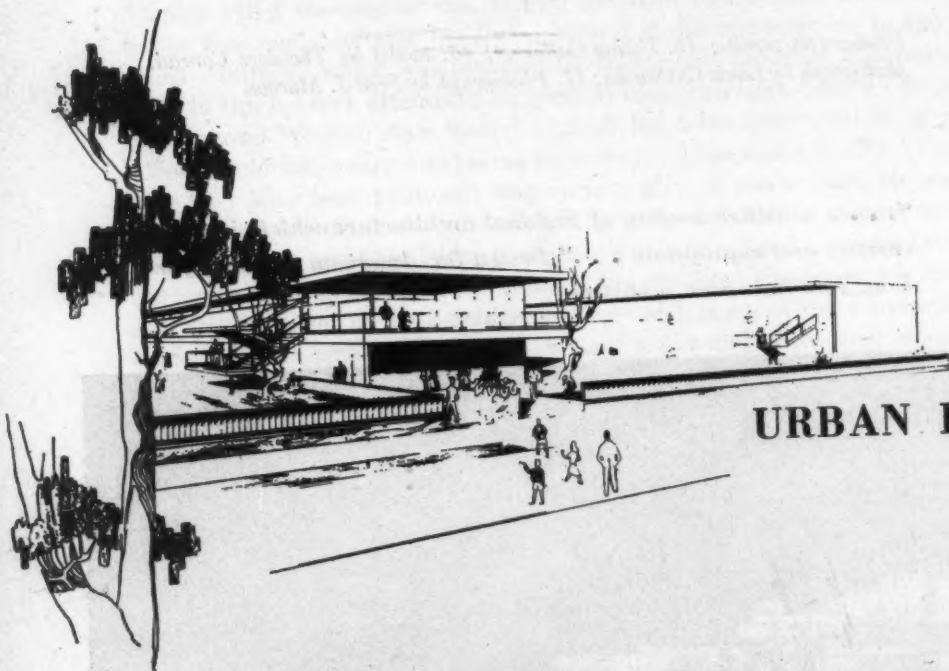


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URBAN ELEMENTARY SCHOOL

Ullie Meinel





APPROPRIATELY DESIGNED FOR THE DEEP SOUTH

McDonogh School No. 36, New Orleans, La.

Sol Rosenthal, Architect; Charles R. Colbert, Associate Architect

MCDONOGH SCHOOL No. 36 is one of many named for a New Orleans pioneer educator who established a number of Negro schools in New Orleans. His statue stands in a landscaped downtown square. The school sites he selected are still used, still the property of the Board of Education; and though they and their buildings are now inadequate to say the least, urban land is expensive and the job of improvement is slow.

This example was one of the first two Negro schools under the Board's current building program. Additional land was acquired, a public street was closed — the first time this had been done in the city for school purposes — and in 1949 design was started. Korea, the steel shortage, Board policy changes and construction difficulty prevented its completion until 1953. When the new school was finished, the old frame struc-

NEW ORLEANS SCHOOL



Photos: Ulric Meisel except as noted

ture was refurbished so it could continue in use.

Originally the plan was to construct a 1600 pupil K-6 school. The program was altered after the architects studied it, and on their recommendation, to require two schools, one for 770 pupils (22 classrooms) and McDonogh 36, for 875 pupils (25 classrooms). The site conditions, familiar to all who build on delta land where basements are impossible, required the simplest possible resolution of foundation problems; everything rests on piles driven into bottomless mud. The high land cost led to a two-story scheme if the desired single-loaded corridors and open ground for recreation were to be attained. High ceilings and through natural ventilation answer the demands of climate. The brilliant primary colors, the gay, boldly patterned screen walls, the courts between classroom wings and the balcony corridors are all appropriate to the locale, in some sort modern counterparts of the brilliance, the courtyards and the wrought iron

Trussed elevated corridors, above, reduced foundation problems. Colorful, patterned screens (facing page) give some privacy to courts, liven the whole



C. F. Weber



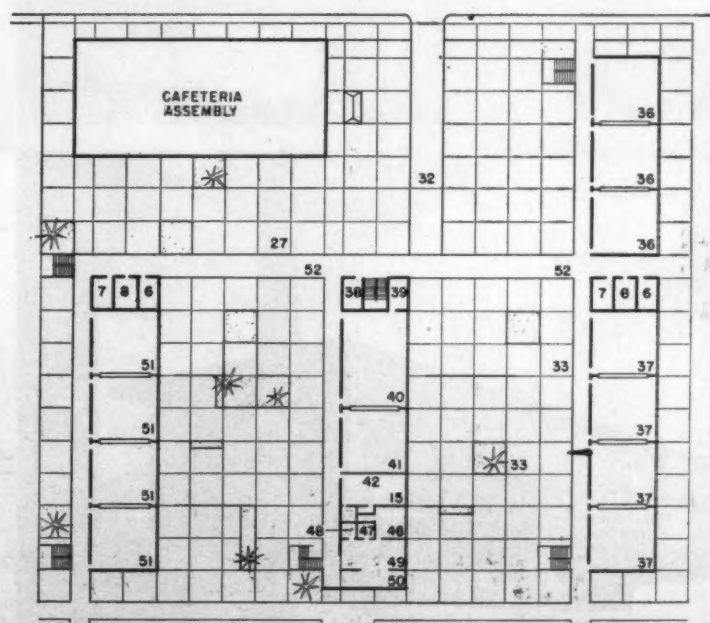
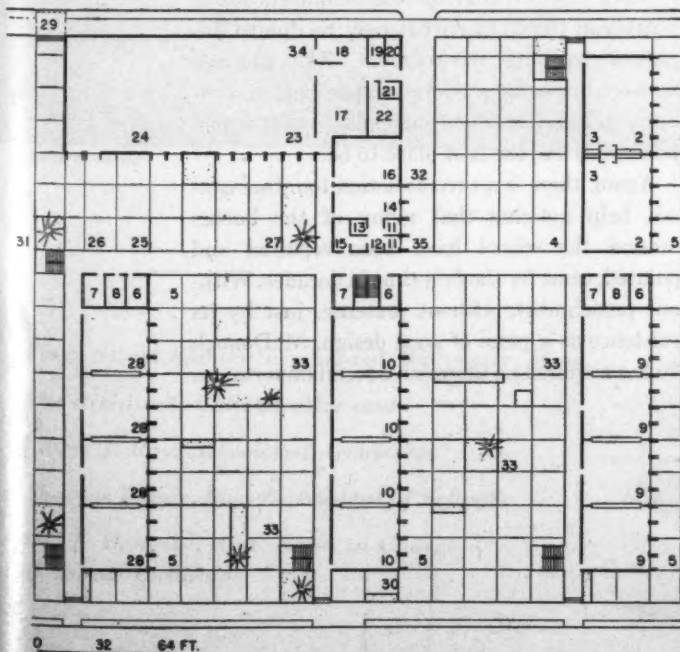


- 2. Kindergarten
- 3. Kindergarten work area
- 4. Kindergarten play court
- 5. Outdoor classrooms
- 6. Boys' toilet
- 7. Girls' toilet
- 8. Custodial and general storage
- 9. First grade classrooms
- 10. Second grade classrooms
- 11. Medical bedrooms
- 12. Small examination room
- 13. Doctor's office
- 14. Examination room
- 15. Teacher's lounge

- 16. Power room
- 17. Kitchen
- 18. Scullery
- 19. Service toilet
- 20. Dressing room
- 21. Garage
- 22. Storage room
- 23. Cafeteria
- 24. Play area — assembly
- 25. Play area
- 26. Mural
- 27. Dining court
- 28. Third grade classrooms

- 29. Canopy to street
- 30. Entrance court
- 31. Playground
- 32. Service drive
- 33. Outdoor Classrooms for upstairs
- 34. Chair and table storage
- 35. Infirmary court
- 36. Sixth grade classrooms
- 37. Fifth grade classrooms
- 38. Storage and book room
- 39. Visual aids and chair storage
- 40. Multi-purpose room
- 41. Library

- 42. Teachers' work room
- 43. Female teachers' toilet
- 44. Male teachers' toilet
- 45. Principals' toilet
- 46. Principals' office
- 47. Clerical storage
- 48. Records vault
- 49. Public reception room
- 50. View gallery
- 51. Fourth grade classrooms
- 52. Trussed corridor
- 53. Covered stairway
- 54. Skylight over kitchen



NEW ORLEANS SCHOOL

balconies that are considered the idiom of New Orleans architectural expression.

The trussed walkways connecting the second stories were designed independently of any American examples, although the architects admit having seen the Von Nelle factory in Rotterdam designed by von der Vlugt (1929). By the time the school was finished, of course, similar devices had been used and publicized in this country. Their reason for being at McDonogh 36 is fundamental: they simplified foundation problems.

Equally direct is the reasoning behind the design of the completely exposed stairways (except for one central access to the cafeteria). Children in the surrounding crowded slums walk to school. Why not walk ten feet farther, up? Yes, it rains hard in New Orleans, but a few feet more makes little difference in wetness or dryness.

The administrative unit overlooks the slums that produce the school's children. It is a two-way view: the occupants of underprivileged homes look through the glass walls and see education being administered in a pleasant, stimulating environment. Consciously or not, the hope of improvement through education becomes a real thing, attainable without difficulty. Proof is not positive, but as in the few other new Negro schools in the city, retardation and drop-outs — always serious problems in New Orleans' Negro schools — have decreased. The new schools have seemed to counteract this tendency. In part, their greater holding power may come as an after effect of World War II, another manifestation of a national trend; in part it may be due to improved teaching environment. The contrast between home and school is so apparent, so obvious to parents, teachers and children that school just seems like the best place to be.

Again, there is a reverse action too. One cannot help noticing that many of the houses around the school have been repaired and painted, some for the first time in decades. Without preachment, without pretense, just by its existence as a piece of good design, McDonogh 36 has acquired an impressive social importance.



TRADITIONAL FORM AND CONTEMPORARY EXECUTION



Joseph W. Molitor

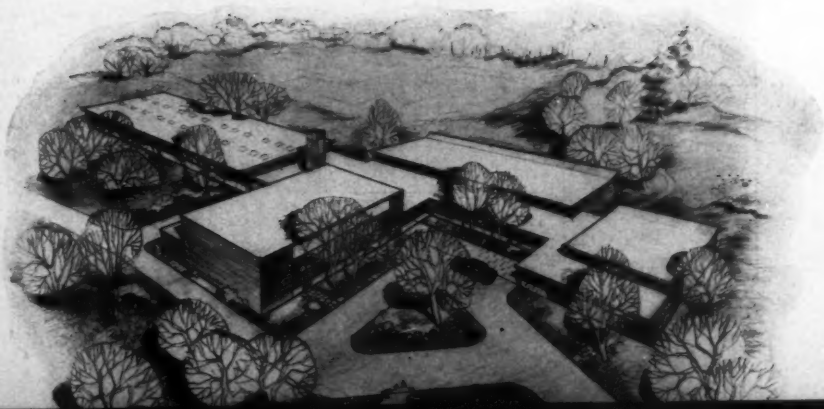
Flagg Street Elementary School, Worcester, Mass.

The Architects Collaborative and

Albert J. Roy, Associated Architects

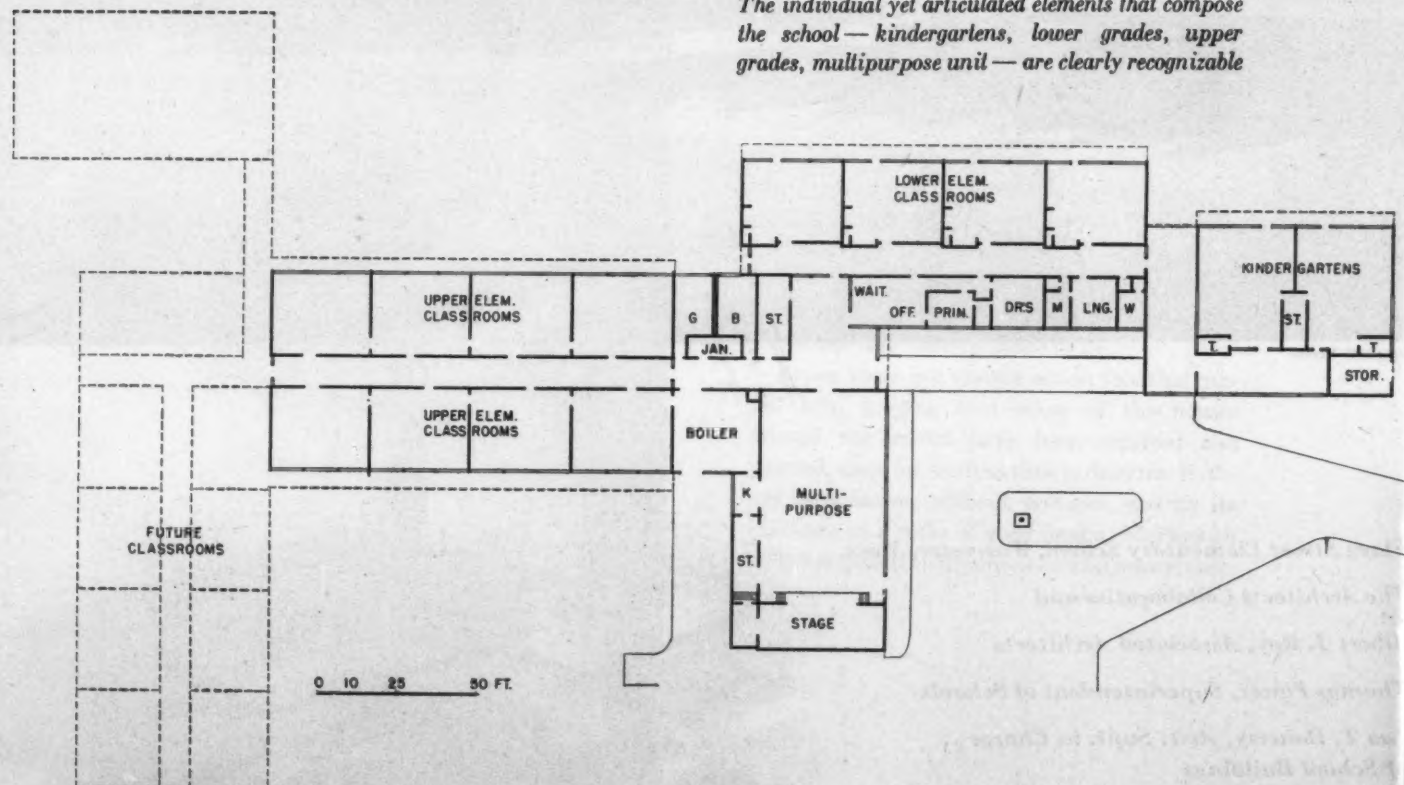
Thomas Power, Superintendent of Schools

**Leo T. Doherty, Asst. Supt. in Charge
of School Buildings**





The individual yet articulated elements that compose the school — kindergartens, lower grades, upper grades, multipurpose unit — are clearly recognizable



MASSACHUSETTS SCHOOL



THERE WERE THREE problems to be tackled simultaneously in designing the Flag Street School: to provide a suitable environment for the elementary school child, who is making an adjustment probably as difficult as any he will face in his lifetime; to do this well esthetically and educationally, imaginatively and in harmony with its locale; and for economy to produce a relatively compact school and yet one which has somewhat the character of a community of buildings.

In general terms the architects have restated these fundamentals somewhat as follows: children in elementary schools are at an age of great transition. As pre-school children they have been given considerable individual treatment. Their group has been principally family, and they have enjoyed certain priorities. When they go to school they are suddenly projected into a large group of their own age with no more priorities than any of their fellow youngsters. For many children this is unpleasant medicine; if

the individual child finds he is no longer an individual, just at the age when he has begun to learn that he really is one — that among four or five hundred his own age he hardly counts — the medicine may be too difficult to take all at once. Yet sooner or later children have to realize that the small group in which they can feel at home is part of a larger one, and that of a larger again, and so on. This may be the most important school lesson.

The Flag Street School's architects looked on their job, then, as one of designing a building to help make this transition and teach this lesson. Hence the classrooms in small groups for different age levels, yet all interrelated and interdependent in design. Whether this was to be achieved by a series of buildings with outside circulation, or in one building with individual, articulated elements became in part a regional consideration.

The separate elements — kindergartens, lower grade rooms, upper grade rooms and multi-



MASSACHUSETTS SCHOOL



Above and left, John Lawlor

Classrooms are different for different age groups. Below, upper elementary grades are in flat-roofed section, have plastic skylights, central corridor with borrowed light. Facing page, lower grades have pitched roofs, clerestories, single-loaded corridor



Fenestration changes slightly in different parts of the school. Facing page, far left, upper elementary unit; center, multipurpose wing; below, kindergarten foyer

Photos: Mollitor except as noted



purpose unit — are linked by corridor and service areas having lower roof levels, much as the New England farmhouse group is tied together. This, of course, was done to avoid causing children to go outdoors during the rigorous New England winter. In such a sound fashion, for reasons inherent in the situation, a traditional form was natural to adopt. The school makes no overt effort to look like a Massachusetts farm, the materials and the shapes and the fenestration are wholly of our time, but the concept exists and the kinship is evident.

There are refinements: the design of the room types has stressed differences in architectural handling to further their individual expression. Kindergartens and lower grades are on single-loaded corridors and have a low-pitched roof and clerestory light. Upper grades are in a flat-roofed section, on both sides of a corridor, and have plastic skylights for secondary natural illumination. The room groups have been offset in plan and are differently oriented so they will have different outlooks. This, the architects felt, would be more stimulating to the child as he progresses from year to year than a straight line or "finger" plan, in which each view is practically identical with the next.



SPACE—TIME PALLADIAN

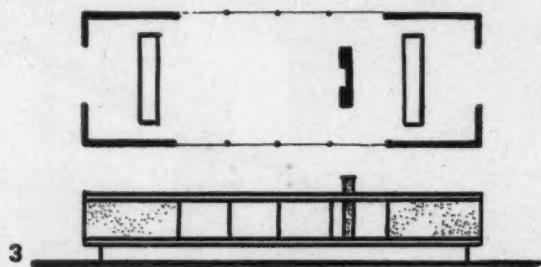
By John MacL. Johansen; illustrated by the author

THE SIMILARITIES between designs of certain contemporary houses and those of Palladio, if brought to notice at this point in modern architectural development, should be of particular amusement and serious interest to architects. We are aware of a new interest in architecture of the past. Students who in my time would have found nothing to learn from the great monuments are availing themselves of traveling fellowships or by some means visiting Europe for study. Established practitioners return with a naive air of having personally "discovered" Rome, Venice, Vicenza; the palazzo; the public square. Architects, hurt to discover that these monuments have had lovers for centuries, proudly proclaim to love them best. A reconciliation between the revolutionary youths and their beaux-art elders is apparent. The revolution seems to be turning full circle.

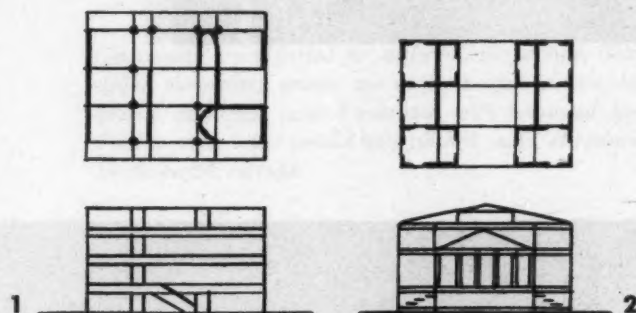
This article isolates a small part of the new interest in the past: the Palladian Villa. Villa Capra (Rotonda), Fig. 7, more than any historical house, had captured the imagination of several generations of architects in Europe and here. In England there were Wren and Inigo Jones; in Ireland Richard Castle; while Thomas Jefferson chose Palladio in contributing a dignified architectural expression for a newly established nation. Granted, these were fairly literal copyings of pediment, column and arch. Beyond these, there is abstract quality, system, idea, basic organization of space and mass, principles and values which we find to be of

task at hand with the 'certain truth' of mechanics which is final and unchangeable."¹ In addition, there are the qualities of proportion, elegance, richness, accent, movement, grandeur, picturesqueness, playfulness, gaiety. There is a combination of monumentality and spirit; strength and play, or as Geoffrey Scott has said, "The laughter of strength."²

What are the important values today? There are some architects who feel as I do that the modern, architect-designed house has left a great deal behind. My feeling is that residential building (unless it never had any serious architectural possibilities) must have these qualities. Those who feel this way are professedly not



timeless importance — which can be restated, reapplied. Qualities of Italian Renaissance design in general and Palladian in particular might be stated as follows. First, there is the strong central geometric form, usually a rectangular block with a regulating rectangular system of bays expressed in elevation which results in a "centralized plan." For the plan itself, "He reconciled the



functionalists, controllers of climate, scientific truth seekers, esthetic exhibitionists or believers in "do-it-yourself." These technical services the architect must perform — but they should be taken for granted, not boasted of. Architecture begins after these matters are solved, for architecture is not alone such techniques, but the effect of their handling upon the human spirit.

The older generation of modern architects respected and studied historical works. Le Corbusier and Mies van der Rohe — with all their forward growth — have roots in history, and their cumulative experience has



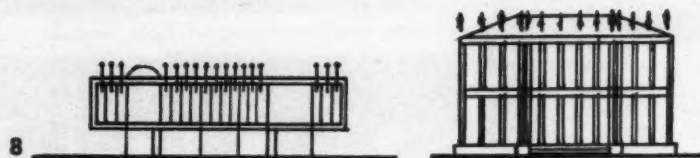
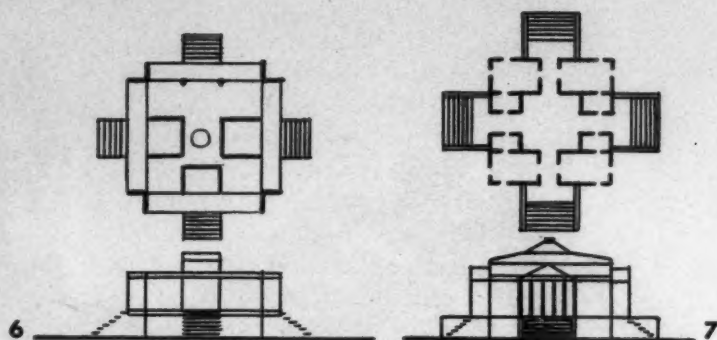
made them what they are. Possibly they are greater artists than teachers, for the younger generation has lost contact with the past and in the historical sense might be called a lost generation. To show Le Corbusier's concern for Palladian order, we need only read the careful analysis made by Colin Rowe³ in which he compares the Villa at Garches, Fig. 1, with the Villa Malcontenta, Fig. 2. These two villas are regulated in plan

¹ Wittkower, Rudolph: "Architectural Principles in the Age of Humanism," A. Tiranti, London, 1949.

² Scott, Geoffrey: "The Architecture of Humanism," Scribner, New York, 1914.

³ Rowe, Colin: "The Mathematics of the Ideal Villa," ARCHITECTURAL REVIEW, London, March 1947.

and façade by almost identical proportioning of bays. The point support of Garches obviously allows the free and fluid space of the modern esthetic which was not possible with Palladio's bearing walls. Mies van der Rohe's Resor House, *Fig. 3*, with its free central space and the strong walls enclosing its corners, is very much in the Palladian spirit.



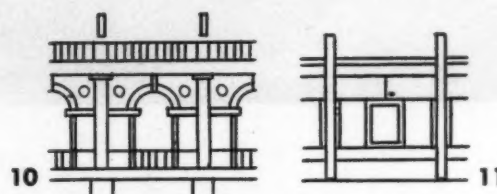
Of the younger generation, Philip Johnson — who considers his prototypes more Roman than Palladian — has in Villa Hodgson, New Canaan, *Fig. 4*, come close to a Roman house redesigned by Palladio — Villa Tiente, *Fig. 5* — in which Johnson found new functional use for the ancient form.

In the same spirit, I have designed a series of inexpensive central-plan houses which I call "Budget, or Poor Man's Palladio." Villa Goode, *Fig. 6*, perhaps appears a too slavish copy of Villa Capra, *Fig. 7*, to be justified under the modern architects' creed; however, this plan was developed to satisfy the strict demands of function and budget. Here a compact arrangement of rooms surrounds a hall or rotunda, and the equal bays facilitate framing. The lower story in rustic masonry corresponds to the traditional "base"; there are sheltered porches with steps on four sides in place of traditional porticoes; light-providing-monitor replaces dome; upper floor corresponds to "piano nobile"; post-casings and fascias correspond to pilaster and cornice.

Ornament too is creeping back. Today, however, we consider it unethical to use ornament which has no functional meaning — yet there is need for accent,

detail, playfulness, gaiety; and rightly denied the use of urns, statuary or temple fronts, we are finding devices which satisfy the functional and sculptural needs in one. Paul Rudolph in his Florida house, *Fig. 8*, has by counter-weights, given his building the same delightful accent at the roof line Palladio's Palazzo Chiericati possesses by virtue of its silhouetted figures, *Fig. 9*.

A question now arises. Are we seeking functional justification for borrowing from Palladio, or are we seeking nobler expressions for our own functional designs? It is my feeling that, to a greater extent, we are searching for these spiritual qualities because at this time they satisfy a human need much neglected. We are amused, interested, and reassured to find Palladio again. His qualities and principles can be as well carried



out in space frame, intercolumnation, or plastic as in bearing wall; *Figs. 10 & 11*. In a sense, we go forward and backward. We need not fear this backward look nor be embarrassed by similarity with earlier types, but rather feel proud; for art which is fundamental in its appeal has precedent and parallel regardless of time.

1. Villa at Garches, by LeCorbusier
2. Villa Malcontenta, Vicenza, by Palladio
3. Resor House, by Mies van der Rohe
4. Villa Hodgson, New Canaan, Conn., by Philip Johnson
5. Palazzo Tiente, Vicenza, by Palladio

6. Villa Goode, Connecticut, by Johansen
7. Villa Capra (The Rotonda), Vicenza, by Palladio
8. Villa Florida, by Paul Rudolph
9. Palazzo Chiericati, Vicenza, by Palladio
10. Large and small orders — The Basilica, Vicenza, Palladio
11. Large and small orders — Connecticut House, Johansen

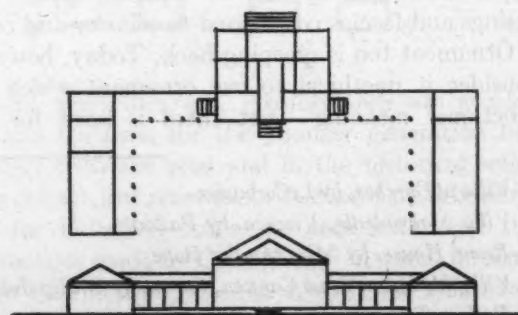


© Ezra Stoller

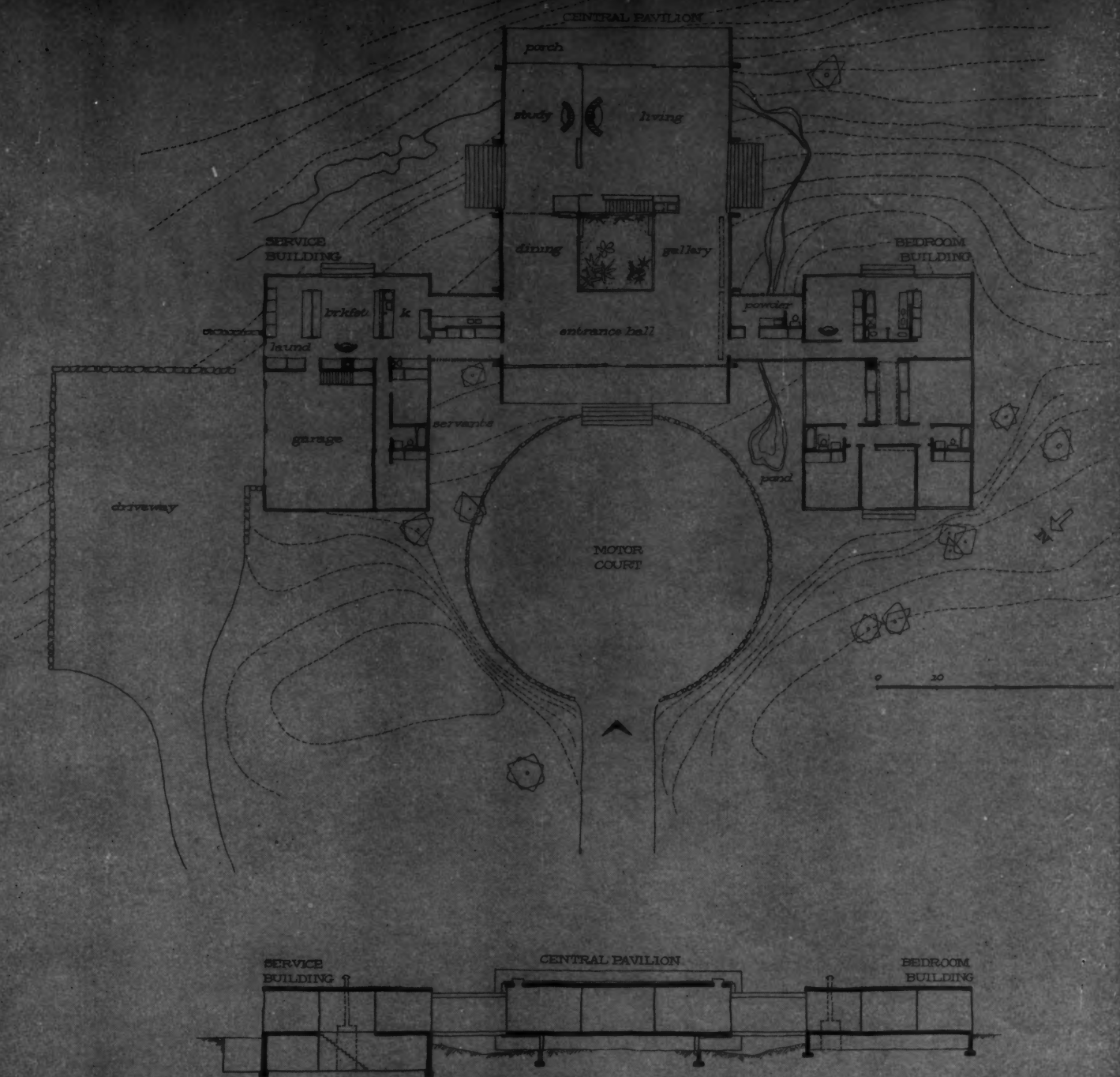
PALLADIO + A ROCKY CONNECTICUT HILLSIDE

A House in Fairfield County, Conn.

John MacL. Johansen, Architect
James Fanning, Landscaping
John C. Smith, General Contractor



Villa Zeno—Casallo, by Palladio



+ THE NEW STRUCTURAL TECHNOLOGY

THIS DESIGN for a large country house creatively fuses three influences: Palladio, the setting, and 20th century technology. The general arrangement — a large central pavilion entered imposingly on axis and flanked symmetrically by two smaller units which are joined to it by narrow links — compares interestingly to Palladio's plan for Villa Zeno, left. And in smaller particulars the Italian's ideas come through; the central skylighted grotto, the bay framing and fenestration (see figs. 10 & 11, p. 151), the white fascias and posts against the soft pink stucco, for example.

The secluded four-acre site slopes to the southeast; contains fine old trees and natural rock outcroppings. This environment suggested three buildings resting on natural stone bases built upon the outcroppings — the concept of three islands connected by glass-enclosed bridges. Such is the executed scheme, and interestingly enough, the links are true bridges; note how the natural terrain flows freely beneath them in visual verification of the idea. The site was generally left untouched, the principal landscaping consisting of the clearing for a natural pond at the foot of the slope.



A HOUSE IN CONNECTICUT



© Ezra Stoller





The bedroom and service wings are wood framed in fairly conventional fashion, but the structure of the central pavilion is quite unusual. It consists of five laminated wood bents in hollow rectangular shape, set 16 ft apart, from which the roof plane hangs and upon which the floor structure rests. Visually framing this element lends it added importance. The 9 in. thick bents rise 16 ft and span 50; rest upon a native stone foundation, cantilevering 8 ft over it on either side. The top and bottom chords are 30 in. deep. Note that the vertical enclosure plane for the central unit is laterally separated from the bents — a design refinement that expresses the structural freedom of this plane.

The central pavilion is large (48 by 80 ft), high ceilinged (10 ft 6 in.), and contains the principal areas for living, dining and entertaining. This unit's importance is emphasized by the variance in ceiling heights between elements: 8 ft 6 in. for the two flanking buildings, and 7 ft for the bridges. Access to the site is provided by steps from the kitchen, library, living area, children's playroom, and master suite.

The bridges — one of which is shown above in photo-elevation — are glazed floor to ceiling between 2 by 8's set 6 in. apart. Such a treatment offers relief from the large glass areas of the buildings themselves; creates a feeling of sequence between units.



A HOUSE IN CONNECTICUT

The interiors, successful within themselves, are noteworthy also for the manner in which they — from nearly any point — provide one with a strong sense of identity with the site and with the other units of the scheme.

The large living space, shown above and at third right, is floored in random teakwood boards and contains a quite unusual fireplace. Its concave masonry is native stone; the hood is steel, painted dull black; the character achieved is almost medieval in feeling.

Second right: a view of the bridge connecting kitchen and dining areas — split planwise into pantry and passage — shows, in the pantry, the interesting pattern of light and shadow created by the vertical glazing.



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BOLD GEOMETRY AND GLASS FOR AUTO SALES

Thomson Brothers Cadillac Agency, Cincinnati, Ohio

*Architects & Engineers: A. M. Kinney Associates
John R. Morris, Project Manager
Charles Burchard, Director of
Architecture*

Landscape Architect: Eleanor A. Christie

Interior Designer: Harbine Chatfield

Contractor: Charles V. Maescher & Co.



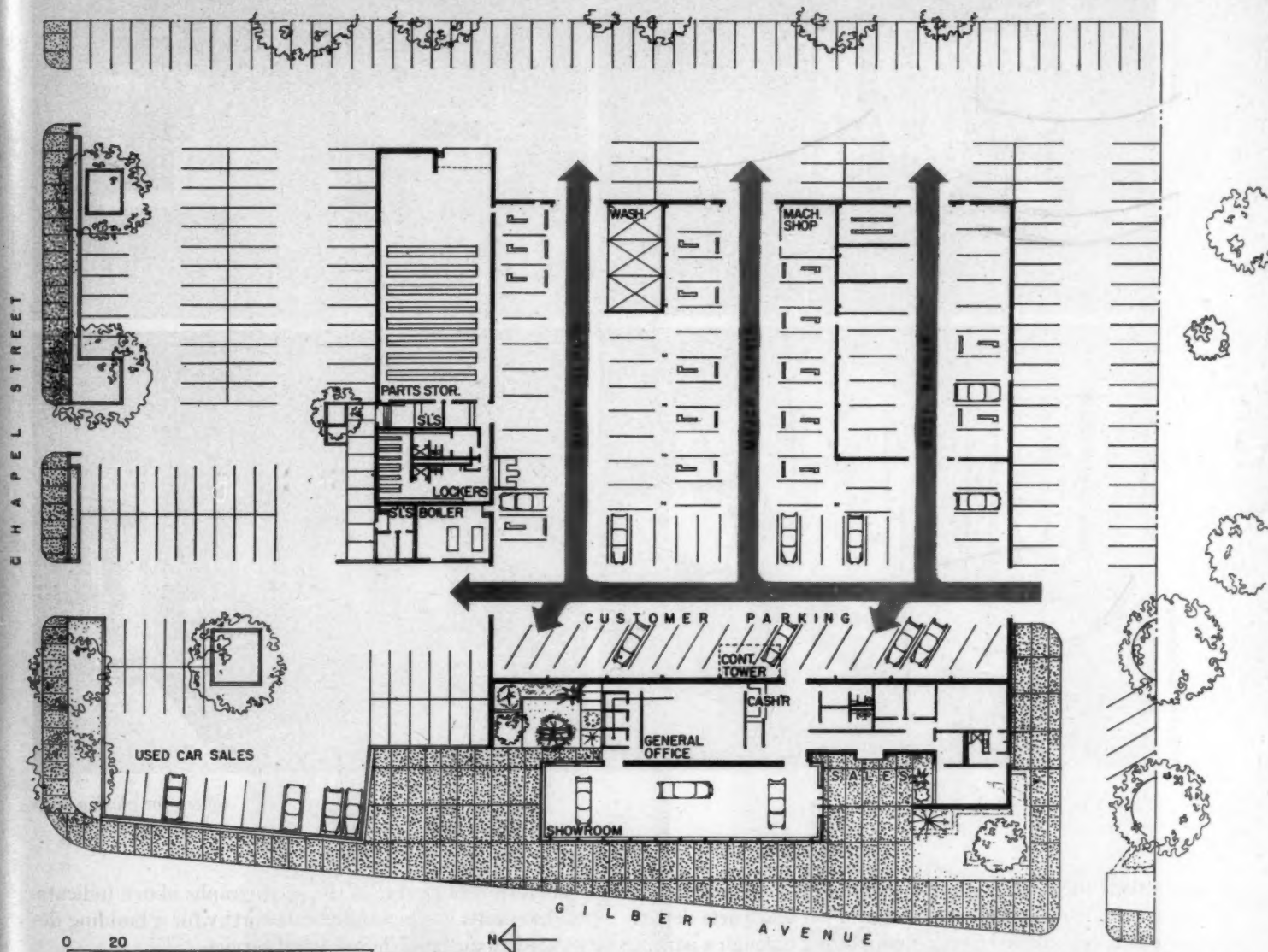
THERE IS cliché danger in the ill-considered use of the glass box. There is also — in the right situation — the opportunity to make of it a glowing, crystal showplace for business that evokes comment; ups sales. Here, at night, against the small, broken-up patches of light characteristic of Cincinnati's environment, the bold geometry of this stainless steel cage and its strip lighting come alive to make a striking display visible for some distance along Gilbert Avenue. For daytime effect, the

glass cube, topped by light blue porcelain panels, is played interestingly against long horizontal ribbons of sand colored brick and corrugated aluminum enclosing service and used car areas to the rear. Planted courts placed at "hinge points" in the plan contrast nicely to the severity of the building; enable one to view the cars on display against a natural background.

Three main elements comprise the plan: the showroom, sales and office group fronting on the principal



Bill Engdahl, Hedrich-Blessing



AUTOMOBILE SHOWROOM

President's office



Office reception area



Bill Engdahl, Hedrich-Blessing

Sales conference room



Offices for closing sales

street; the service area immediately behind, reached by a private driveway; and the used car and parts department, approached from a minor street through a parking area. This area embraces an outside display space for used cars which faces on the principal street.

The service area is framed within 20 by 70 ft bays, providing a clear space with but two rows of columns. The latter define the three-way function of the department and help channel its traffic—controlled by a tower in much the same fashion as airport traffic. This area is designed for possible future expansion eastward, as is the flanking parts department which serves it.

Office and sales area interiors were the subject of a

great deal of study, as the photographs above indicate. The results are especially noteworthy for a building devoted to automobile sales and service.

The basic structure is a steel skeleton with metal roof deck. The exterior is faced with brick, corrugated aluminum or porcelain enamel panels over concrete block; service area sash are steel, industrial type; the overhead garage doors are motor controlled. The service area is finished in glazed structural tile; the office area wall finishes are generally painted plaster or face brick, with portions wood panelled. Floors in the front portion are ceramic tile, quarry tile or asphalt tile; ceilings are acoustic tile or painted plaster.

RELIGIOUS BUILDINGS

Concrete panels cast "in situ" by Bernard Frazier. They are forty feet high and were done for Temple Israel, Tulsa, Oklahoma. Percival Goodman, architect



Worship and the Arts

By Otto Spaeth

Mr. Spaeth is a founder and past president of the Liturgical Arts Society; a member of the American Federation of Arts; and a private collector

THE SIX RELIGIOUS BUILDINGS shown in this issue of ARCHITECTURAL RECORD are compelling examples of what may be expected from a fruitful encounter between eternity and the moment. It was that encounter that raised the great churches of our European past and it is heartening to see it taking place again.

A continuity of essentials thus exists in ecclesiastical architecture of the first rank, and if surfaces change — sometimes apparently beyond recognition — it takes but a moment's thought on two of these essentials, "eternity" and "the moment," to see why this must be.

The moment changes, of course, or it would not be the moment. But the changes evident in the moment that inspired the best of these churches and temples are more profound than the availability of new materials for building, and new architectural concepts for handling those materials. The moment includes the whole present society in which the church is situated, the position of the church in that society, the intellectual texture of the congregation, the many and intricate relationships between the congregation and the society.

To illustrate: a thirteenth century cathedral dominates the thirteenth century cathedral-town partly because the thirteenth century Church did indeed dominate the society of that day. Dr. Blanchard aside, does anyone seriously pretend that any Church dominates contemporary American society?

"Eternity" changes, too. This blatant contradiction in terms is explained by the simple fact that in our vital encounter — certainly insofar as it takes place in ecclesiastical architecture — we are not really dealing with

eternity, but, of necessity, with our own understanding of eternity. This is not theological relativism, but a simple recognition of the humility and truth in St. Paul's "through a glass darkly." From time to time the vision clears; from time to time the glass darkens. But at any time, we are stuck with the glass. Only through it can we glimpse the eternity which is to shape our lives and our churches.

To illustrate again: five hundred years ago one of the three or four most popular subjects of religious art — you see it everywhere in the period: in stone tympani over church doors, in tapestries, in murals, in manuscript illuminations — was the *danse macabre*, the summoning of all men to judgment and, for the most part, the art implies, to condemnation. With no change in the formal theology involved, it is a fact that today that subject has vanished from church art. The glass has changed, cleared or darkened, as you wish, but changed certainly; and with it has changed our "eternity" insofar as it affects church decoration.

Well designed religious buildings take account of such changes. Rooted in eternity, they flower in the moment. We may take pride in them not only as Christians or Jews, but as Christians and Jews of this moment, in this place. Good churches are made for God. They are also made for us; and we are not only rational animals, or humanity, or even the Children of God: we are particular individuals with a certain street address in space, and, as St. Thomas defined "Time," in "the flowing of the Even Now."

It would be pleasant to imagine that the buildings shown here are typical of ecclesiastical building today. It would be deliberately darkening our own glass — even rose color darkens crystal — not to notice two churches unmentioned in these pages but far and away the two most widely known American churches now building: the Cathedral of St. John the Divine, in New York, and the National Catholic Shrine of the Immaculate Conception, in Washington. Whether the Jews have better taste in ecclesiastical architecture or simply the wisdom to be silent about their



Joseph W. Mallory



Oliver Baker



Above: a Head of Christ done in Mahogany by direct carving. Made for Bishop J. Fullon Sheen by Louis Ferrens

Left, top: ornamental crosses in Natick Trinity Church, Natick, Massachusetts. The Architects Collaborative suggested three simplified Celtic crosses to represent the Trinity. Made by a local ironsmith they are hammered wrought iron, galvanized and painted black

Left, center: the altar of the Novitiate of the Jesuits in Plattsburg, New York. Executed by Louis Ferrens, the candles are of wood and polychrome. A silver figure of Christ is mounted on the cross

Left, bottom: a "Menorah" by Seymour Lipton in nickel silver four feet high. Done for Temple Israel, Tulsa, Oklahoma. Percival Goodman, architect

mistakes, I do not know; at any rate, there appear to be no extravagant follies on a similar scale.

These two, the one Protestant, the other Catholic, are anachronistic before they are finished. The Catholic shrine, indeed, is only now moving off the drawing board. Plans drawn up 25-35 years ago are now being put into effect. This outmoded conception will be "completed" with a maze of Byzantine towers and Romanesque domes absolutely meaningless to the 20th century. It is true that modifications are being made, but why take half measures? Why not start over? Why not make it a living expression, a building which will command respect?

St. John's, in New York, is in a slightly different dilemma, though the essential albatross is the same bird: a sentimental and expensive dedication to the dear, dead days of long ago. Despairing of ever raising enough money to finish the cathedral in the fifteenth century style to which they'd hoped to become accustomed, the authorities are casting about for ways to solve the insoluble. St. Bernard's line in a letter to Abbot William St. Thierry on the subject of over-ornamentation in churches is relevant: "For God's sake, if men are not ashamed of these follies, why at least do they not shrink from the expense?"

It seems to me that the first requirement of a church or temple today is that it be of today, contemporary, a structure embracing the total life of the parishioner. That parishioner drives a streamlined car to work in an office or factory where everything has been designed for maximum efficiency and comfort. He travels in streamlined trains and jet-propelled planes. Yet every Sunday he is asked to hurl himself back centuries to say his prayers in the pious gloom of a Gothic or Romanesque past. The clear implication is that God does not exist today; He is made out to be a senile old gentleman dwelling among the antiques of his residence, one whom we visit each week out of sentiment and then forget since he obviously has no relation to the normal part of our lives.

God says, "I Am Who Am." This unique use of the present tense abolishes tense itself and sharply rebukes the attempt to imprison

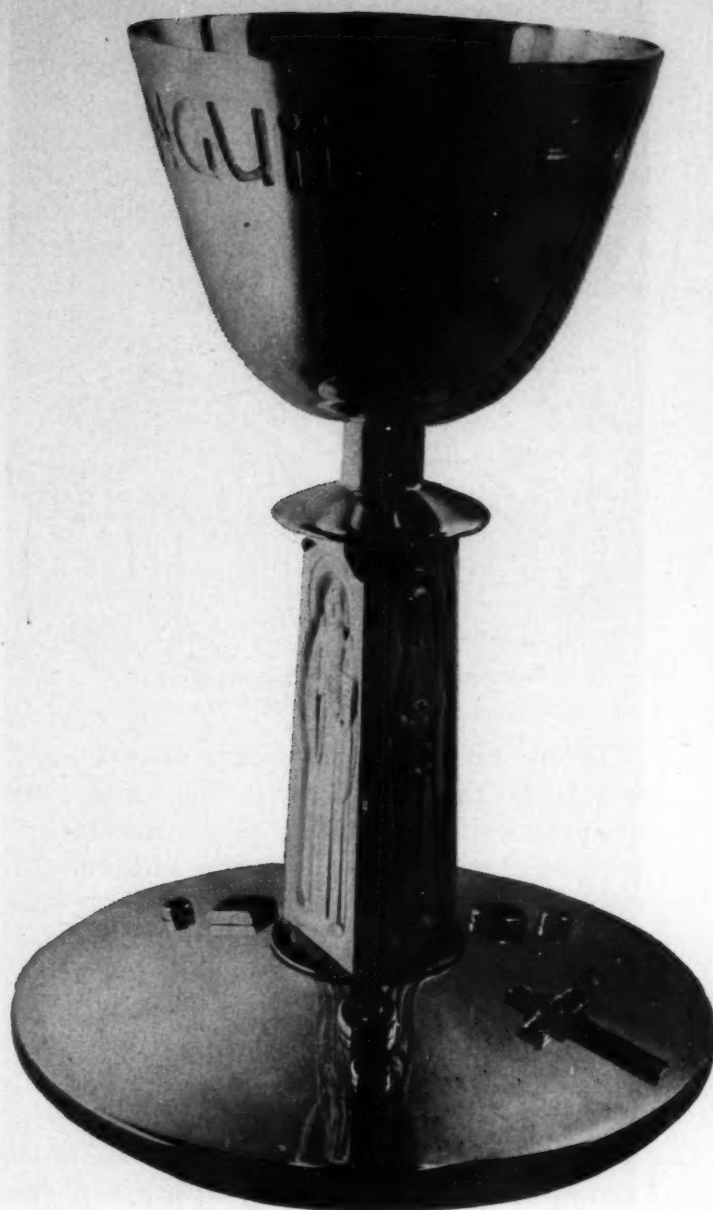
God in a granite cell, however lovely the prison windows.

If our work today is to herald a new age in church building, the first step has to be an open minded and modest clergy. In simple frankness, the architectural resurrectionism that blights our church plant today is the direct result of profound clerical ignorance of art and architecture, coupled with boundless clerical self-confidence. Lest the restatement of this plain fact seem presumption in a layman, let me quote a bishop, The Most Reverend Francis C. Kelley, Bishop of the Tulsa, Oklahoma diocese, writing in the *Liturgical Arts Quarterly* for October, 1940: "The fact that a bishop has to examine and approve of architectural plans in his diocese does not make an architect out of him. Gaze on the consequences that have followed the negatives and positives of bishops who were architects only by self-confidence. No wonder we have a liturgical arts movement — we had long needed it. How many are the buildings too costly to replace but too utterly bad to tolerate in silence? Every one of them is a monument to someone's . . . ignorance. The greatest men are those who learn their own limitations. Stubborn men never learn theirs."

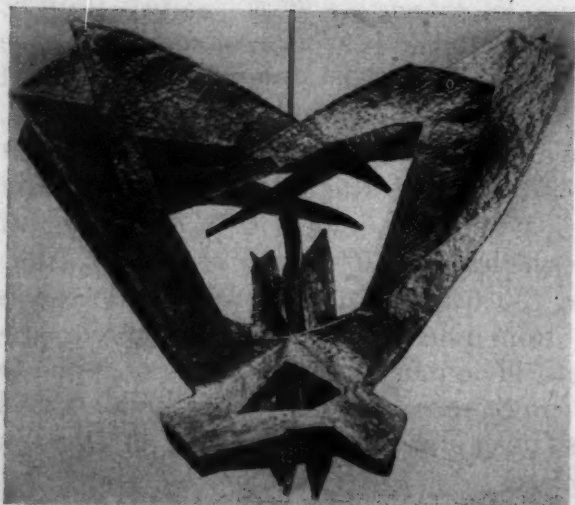
The ecclesiastic of any rank cheerfully admits that the laying on of hands has done nothing at all for his knowledge of air conditioning or central heating. He can be brought to see the same of his knowledge of architecture. Help can only come from where the knowledge lies, from the architect or from the well-informed, be he priest or layman. Many Protestant churches have boards of trained laymen who assist the pastor in secular matters; these men, naturally, form the nucleus of any building committee. It is my experience that this lay participation seldom exists in Roman Catholic churches; and yet such groups could be of inestimable aid to the pastor — certainly the businessmen among them could point to the costliness of reiterating past granite glories. The architect should be prepared with periodicals and slides to show the best contemporary ecclesiastical church architecture throughout the world; he should stimulate the thought that architecturally as



Oliver Baker for Grace Borgenicht Gallery



Above: memorial chalice to the late Mother Lucy, Mount St. Scholastica, Atchison, Kansas. The chalice, which is made of silver, was done by Wilhelm Wagner



Oliver Baker

Left, top: candelabrum by Calvin Albert of lead and lead alloy, 73 inches in height. Done for the Milton Steinberg House of the Park Avenue Synagogue whose architects were Kelly and Gruzen

Left, bottom: a unique lighting fixture by Seymour Lipton for Temple Israel, Tulsa, Oklahoma. Called "Eternal Light," it is made of nickel silver and is four feet high

well as spiritually the church must be the encounter of eternity and the moment.

Religious leaders should realize that the term "modern" is not synonymous with extremism but that just as the Gothic style was a new form clothing an old function, so modern architecture is today.



"It's some new-fangled thing called gothic."

The architect is in a position to say one word in this struggle. The word is "no" said with absolute finality. For, if an uninformed clergy is the source from whom the blessings of ersatz Gothic flow, in every case there has been an acquiescent architect to provide a canal where he should have placed a dam. With great travail, architecture has lifted itself from the brutish trades to professional status. Does that status mean anything at all? What do we think of a doctor who substitutes for his honest diagnosis the sweet words he knows his patient is longing to hear? Is the architect of wedding-cake churches really any different? The architect is indeed an interpreter, the instrument through which his client's dreams are made incarnate. But if those dreams are nightmares, professional honesty requires that they be shown up as such. When the architect has the courage to say "no," more and more ministers of religion will find the courage to say "yes" to his working where he wants naturally to work, in the spirit of the present moment.

A simple device for the long view is the introduction of courses in art and architecture into the curricula of seminaries and theological institutions. If competent instruction was provided — if, for example, instructors were obtained from nearby architectural schools — this delayed action policy could change the

face of American church architecture in 50 years.

One special caveat needs mention; beware of the "official" diocesan architect. Almost all who qualify and succeed in this monopolistic spot do so by producing churches of uniform mediocrity.

And one related problem should be touched: church decoration. You cannot destroy the architectural beauty of a good church by embellishing it with cheap artifacts; but you can destroy its effect, for example, by the judicious placement of simpering garish plaster concepts of its great leaders and saints.

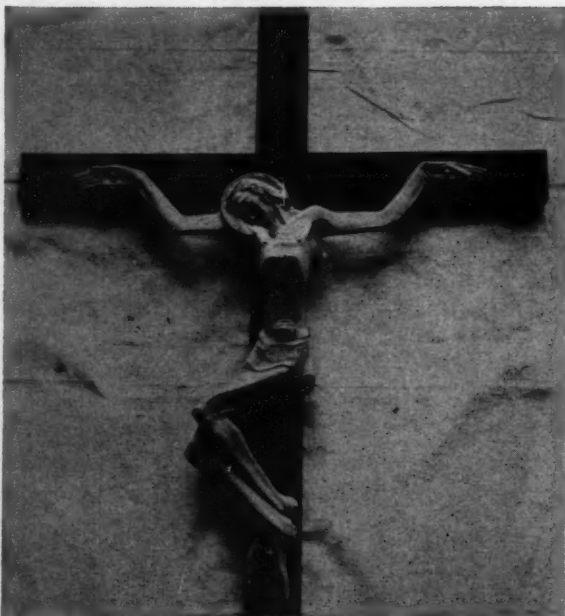
Here again, professional help is required and is available. The most competent art advisors, critics, museum directors and their staffs have their offices within blocks of some of the most abominably furnished churches in the world. Eventually, every large congregation, like any good museum, should have an "acquisitions committee" to protect the church from the generosity of donors. The system at Chartres is instructive. Think of the decades through which the St. Sulpice district in Paris has been producing its horrors of devotional art, yet none has ever found its way into the cathedral at Chartres. Why? Because a succession of wise ecclesiastics have placed the real authority in the competent and free hands of the Manury family, now in its third generation of architects in residence at Chartres.

The architect has a continuous obligation to the church he has built. He must, at least, make the attempt to guard the purity of his building. The lay-professional board of a church, of which we spoke earlier, can be helpful here. The new pastor's understandable desire for change where no change is needed can devastate a beautifully conceived interior.

In any region of the country are competent artists ready and willing to help the fusion of eternity and the moment in the work of ecclesiastical art. Their names are available from the heads of our architectural schools and from museum directors. Their employment will do much to enhance churches and to echo once more the plain statement of God that His church is for all men, of all times, in all places.



Oliver Boker for Grace Borganicht Gallery



Above: two low relief panels approximately twenty inches wide and four feet high by Calvin Albert. Constructed of lead and lead alloy they were done for the ark doors of the Millon Steinberg House of the Park Avenue Synagogue

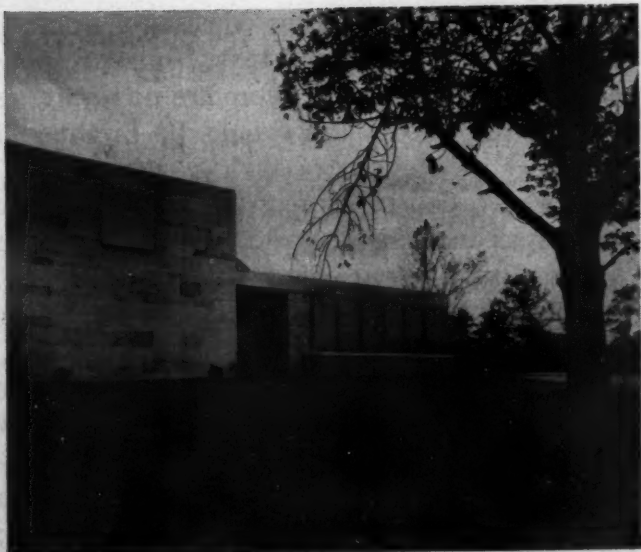
Left: a crucifixion of Christ by Hillis Arnold for the house of Mr. and Mrs. McMenemy in New Jersey. The figure is made of glazed terra cotta and is on a walnut cross four feet tall



TEMPLE BETH EL, PROVIDENCE, R. I.

Percival Goodman, Architect
Severud-Elstad-Krueger, Structural Engineers
Levy & O'Keefe, Engineers
James Douglas Graham, Landscape Architect
E. Turgeon Construction Co., Contractor

ONE OF AMERICA'S OLDEST Reform Jewish congregations celebrated its one hundredth anniversary with the building of this synagogue. Normal seating of a little over 1000 can be expanded to over 1600 for the High Holy days. Complete religious education facilities are included in this building which also contains a nationally famous library of Hebrew and Jewish literature. The social hall is equipped for dramatic presentations and will accommodate over 300 for dinner and over 600 for lectures or plays.





Above: exterior candelabra by Herbert Ferber; opposite Pillar of Cloud and Pillar of Fire by Ibram Lassaw

Koeb's Gallery

Worship and the Arts in the Jewish Tradition

By Percival Goodman, F.A.I.A.


A FOLK RELIGION based on ethical monotheism. The folk element — a special covenant obtains between God and Israel. The ethics are those of the Decalogue. Symbolic is the *Shema* said on every important occasion, "Hear O Israel: the Lord our God, the Lord is one."

The three divisions of today's Judaism issue from the same source and are fed by the same springs. The differences are not schismatic.

The service of all three consists of prayers, readings from the sacred texts, songs, responsive readings, sermons. There are no mysteries and so the prayer hall should be bright and light.

A choir, concealed or visible, with organ accompaniment, is always part of the Reform service; not a requirement, though often used, among the Conservatives. Instrumental music is never used by the Orthodox.

The liturgical furniture stemming from the tradition (Exodus 25) consists of the *Ark* (focal point generally at the east and containing the scrolls); a covering in the form of a curtain, the *Paroches* (often highly decorated);



a candelabrum located at the right of the Ark; a lamp placed over the Ark "to burn eternally."

The Torah is read from a cloth-covered table. Among the Orthodox and sometimes in the Conservative service, the reader faces toward the Ark; in Reform practice, toward the congregation. There is a pulpit for the rabbi and one for the cantor, or there may be one pulpit used by both.

This furniture is mounted on the *Bema*, (a raised platform). Traditionally this is in the center of the hall, a location preferred by the Orthodox. Both Conservative and Reform place the bema at the Ark end of the hall.

In modern practice a center aisle is provided, primarily for wedding processions, but where the Bema is central there is a space around it.

There is no tradition in architecture or the plastic arts. The architecture is always that of the host country, as is the adornment. However, the Second Commandment proscribes the "making of graven images," so the ornament is either floral or geometric. Equally important, the teaching role of much Christian representational art was unnecessary, for Jews by law had to be literate enough to read the sacred books. In general the proscription still holds, though many Reform Congregations permit representational work.



ST. PETER'S CHURCH, PITTSBURGH, PA.

Celli-Flynn, Architects and Engineers
Elwood Tower, Mechanical Engineer
Winterich, Stained Glass, Stations
Rambusch, Mosaic

THE PARISH OF ST. PETER serves 800 families in the South Side of Pittsburgh and its church, seating 750, lies virtually in the shadow of one of the city's large steel mills. The structure is framed in steel and the exterior walls are of insulated cavity brick. Roof is gypsum plank, rigid insulation and built-up finish. Floors are flagstone and ceiling is acoustical plaster. The bell tower is entirely of structural steel with a $\frac{1}{4}$ -in. plate covering the five bell motors. Screen is expanded walkway grating. Cost, excluding only fees and site, was \$330,000.





Sanctuary mosaic by Rambusch; glass and stations of the cross by Winterich

Worship and the Arts in the Catholic Tradition

By Maurice Lavanoux

Secretary, Liturgical Arts Society, Inc.

THE EVOLUTION of all the arts at the service of religion has now reached a point where we can assess the difficulties which make of architecture in the Catholic Church a matter for concern. The past twenty-five years have witnessed a "cleaning-up" process during which we have gradually been rid of much archeological baggage — a baggage which never had much validity in those days and surely none today.

However, this process has now resulted in a simplicity which bids fair to become another architectural cliché — a cliché of simplicity for its own sake and in which sterility and starkness are the keynote. In the haste to be rid of



Joseph W. Molitor



meaningless ornament many architects, perhaps too well trained in the school of severe functionalism, have excluded all warmth from their buildings for the Church. They have aped the current clinical *look*.

But in a Catholic church, because of the liturgical requirements and the normal human needs of the average congregation, such coldness is precisely what can be reasonably condemned today. Simplicity is one thing, starkness and sterility is quite another. Fortunately the remedy is within our grasp. It is simply to bring the artist back to our churches; the artist as a responsible person, in which competence is allied to a willingness to work within

the discipline of the work at hand. Such discipline, paradoxical as it may seem, really allows the artist full liberty in the exercise of his God-given gift.

The ingredients for a fruitful evolution of all the arts at the service of the Church are simple: liturgical propriety and requirements; architectural simplicity without sterility (in other words, distinguished architecture); all the arts brought into play to infuse the whole with that warmth which makes a church truly the House of God.

(Ed. Note: Mr. Lavanoux's challenge to men of talent: good architecture can develop only out of an understanding acceptance of the conditions and circumstances of the program)

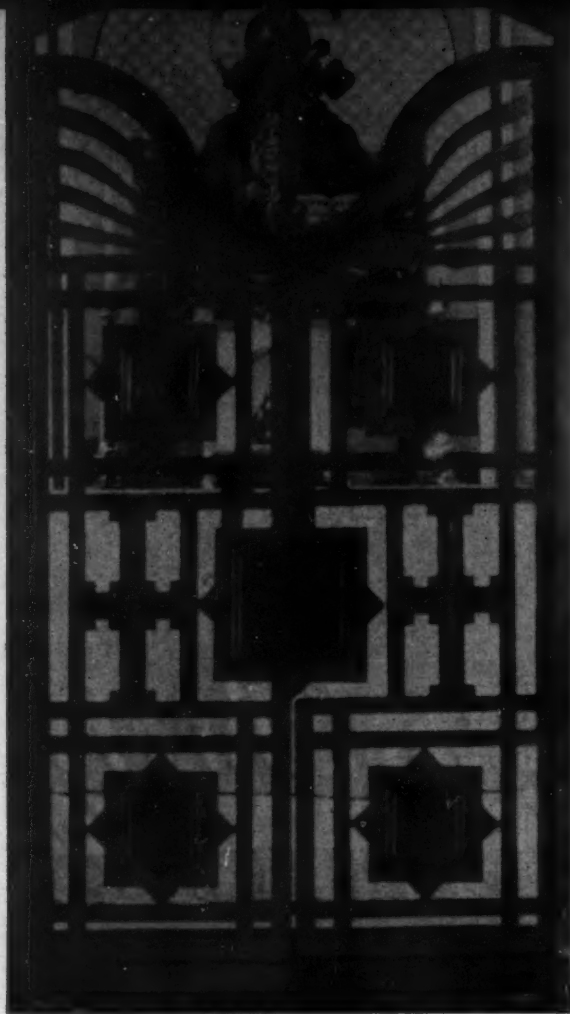


ST. SAVA'S CHURCH, McKEESPORT, PA.

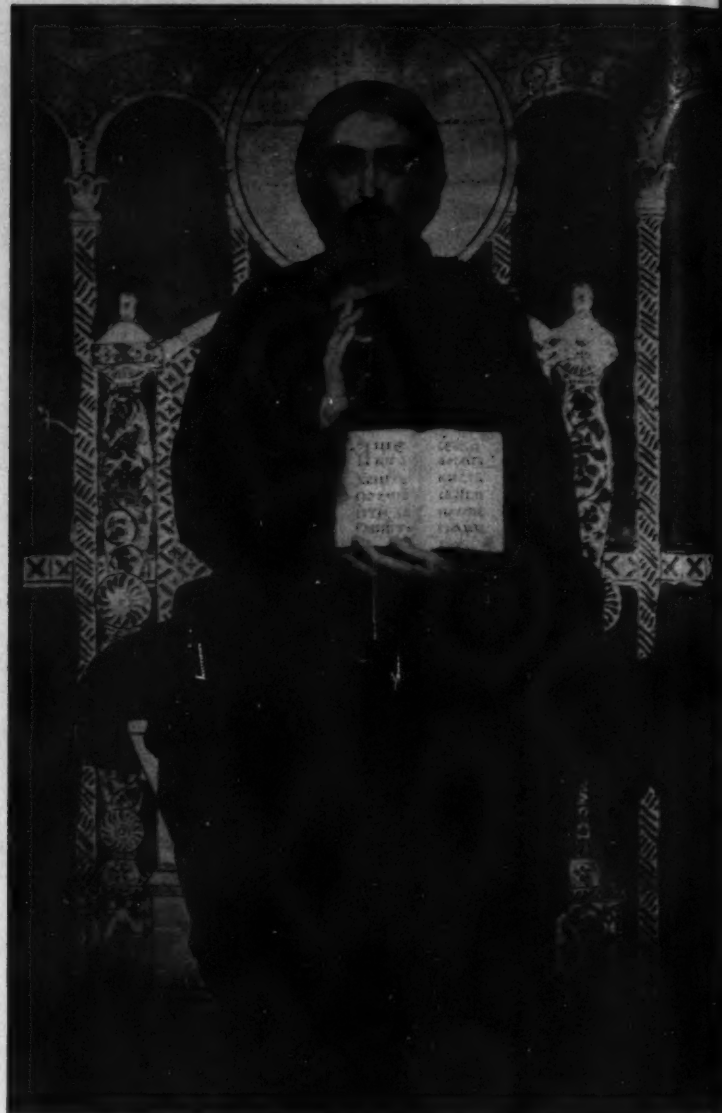
John Pekruhn, Architect
Joseph E. Spagnuolo, Structural Engineer
Charles Hawk, Jr., Mechanical Engineer
Simonds & Simonds, Landscape Architects
Nicholas Le Donne, Contractor

THE SERBIAN ORTHODOX parish of St. Sava's brought with them from their former church a group of liturgical fittings and a strong liturgical tradition. They asked the architect to organize on a hillside site a setting for their worship which would recall for older worshippers the architectural forms of their European childhood and at the same time express the environment and technology and interests of the parish young people. The structure is of steel bents and open web joists, with a copper roof, acoustic tile ceiling and quarry tile floor.





The screen, gate and icons were brought from the former parish church



Worship and the Arts in the Orthodox Tradition

By Milan G. Popovich
Rector, St. Sava's Church

IN THE ORTHODOX CHURCHES, church buildings are designed in conformity with the spirit of Orthodoxy as it is expressed in both doctrine and public worship.

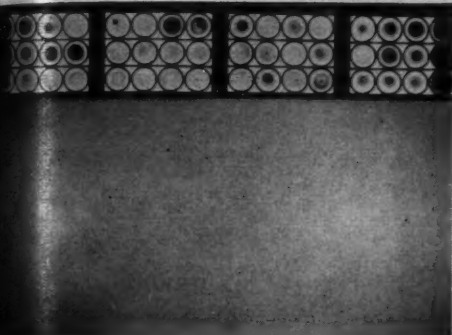
The length of every Orthodox church building must follow the east-west line, so that the sanctuary always faces east. A cross embellishes the top of every dome and belfry. It is also profusely used in the interior.

According to Orthodox belief, God is the Eternal King of Heaven, and His symbolic habitation on earth, the church building, should be royal in every respect. The earthly royal splendor has always served as a pattern for the symbolic expression of heavenly glory. The church building should be spacious, richly ornamented, awe-inspiring. The ceiling should be high and curved.

Some churches have a vestibule at the western entrance separated from the nave of the church. Above and across the vestibule, a balcony (choir loft) is built for the choir.

The nave of the church is subdivided into two sections. The rear section, which is very

Joseph W. Molitor



Glass roundels were cut from bottoms of bottles blown by Blenko Glass; relief by Ray Smith used same clay as adjoining brick and was fired by same manufacturer



spacious, is assigned for the worshippers. The front section, or chancel, is elevated by one or more steps. It is reserved for the clergy and cantors.

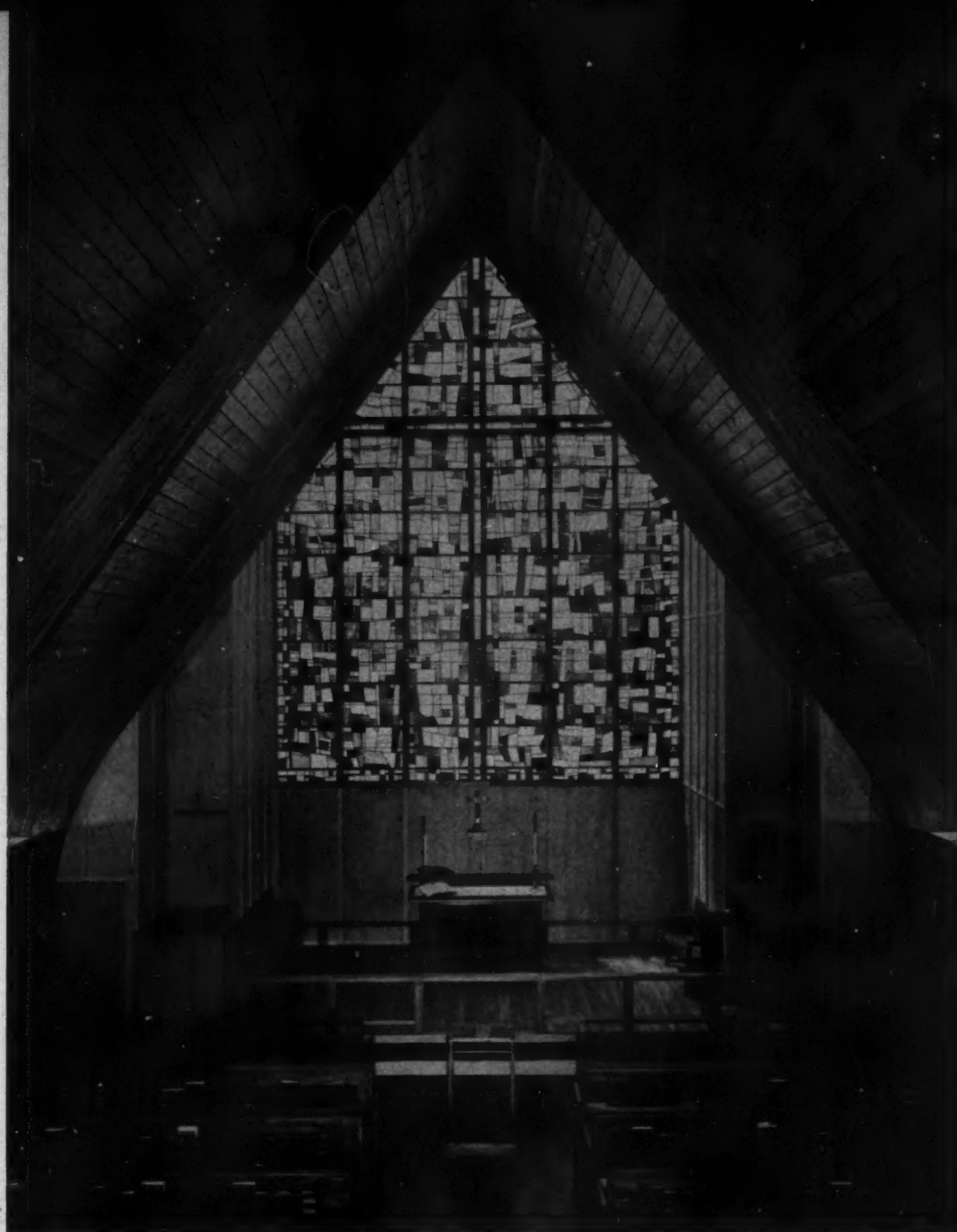
The nave of the church is separated from the sanctuary by a screen called the *iconostas*. It is studded with holy pictures representing the highlights from the life of Jesus Christ and the Mother of God, as well as a number of saints.

Behind the iconostas is the sanctuary, representing the dwelling of the Most High, the Holy of Holies. In the middle of it is a holy table which signifies several things: the table whereon Jesus Christ had His Last Supper,

the cross on which He was crucified, the altar on which the Lamb of God is being sacrificed in the Divine Liturgy, the sepulchre in which He was buried, and the throne of glory upon which He is sitting at the right hand of His Father.

This whole arrangement is designed to conform with the requirements of Orthodox worship, and particularly with the requirements of the Divine Liturgy, which is a mystical and symbolical drama. It represents a re-enactment of the Incarnation and Self-Sacrifice of Jesus Christ, which are correlated with the Creation, Fall and Redemption of man.

Joseph W. Mallor



***ST. GEORGE'S EPISCOPAL CHURCH, DURHAM, N. H.**

John A. Carter, Architect

**Robert W. Loomis, Structural
Engineer**

Robert Sowers, Stained Glass Designer

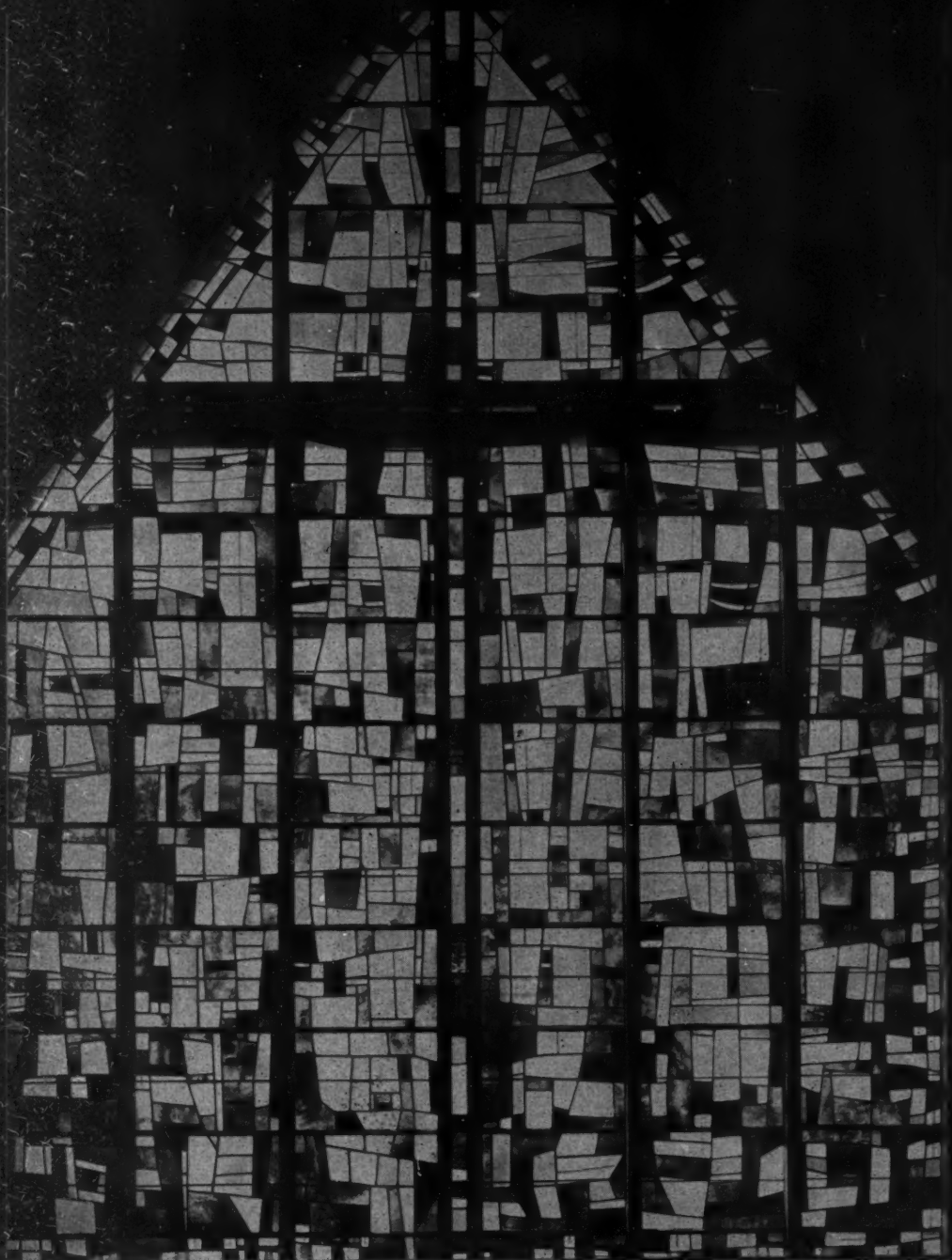
John Hatch, Muralist

Ernest R. Sanders, Contractor

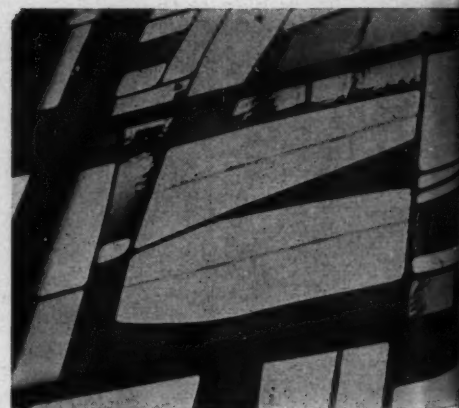
** Premiated in the 1955 Awards Program of
the Church Architectural Guild of America*

ON THE PRINCIPAL STREET of a small university town a 26-foot high chancel window expresses the worshipful character of this church which seats 150. The church furniture, designed by the architect, the stained glass, and the mural achieve remarkable unity with the pink and gray granite and the cedar of the exterior. The laminated wood arches carry a three-inch plank roof with asphalt shingles. The main floor surface is rubber tile and asbestos vinyl and interior panelling and trim is of pine. Over-all cost was \$108,000.00.





The chancel window was conceived as a color-reredos. Its structural cruciform is embellished and echoed throughout the window which is predominantly blue and white with yellow, ruby, green and copper pink as secondary colors. The window is approximately 350 sq ft



Worship and the Arts in the Episcopal Tradition

*By Edward N. West, D.Th., Litt.D.
Canon, Cathedral of St. John the Divine*

THE FRENCH MAINTAIN that one may always recognize an Episcopal Church if one finds "the eagle with suspenders." There is a certain justice in this remark since the Episcopal Church, in common with the other churches of the Anglican Communion, is invariably careful to have the written word of God placed in a prominent position, thus the eagle or lectern which holds the Bible is bound to be in a prominent position. The exact liturgics of all the churches of the Anglican Communion presuppose a careful balance between word and sacrament, thus like the early Church, the centrality of the altar is preserved, while the pulpit and lectern



Joseph W. Moller



Six ft by eight ft mural by Prof. John Hatch, University of New Hampshire, is in a Seco Fresco of blue, white and amber transparent casein washes. Seen at the end of the service its traditional Christian symbols are arranged as an Amen

are in balancing position in relationship both to the altar and to the congregation.

Although not an ancient habit, crosses will be seen on most of the altars of Episcopal churches. There will, in addition, in most instances, be at least one pair of candlesticks. Full frontals, very long fair linens, and a total absence of lace, characterize most of our churches. In churches where the Sacrament is reserved, more often than not, this will be done in an aumbry or closet, in the north wall of the sanctuary (by north, I mean liturgical north which assumes that the altar is always in the east). Communion rails are now almost universal, but they are regarded as

conveniences for the communicants rather than as rails of separation.

There is no such thing as an exclusively Anglican style of architecture. The liturgy will work satisfactorily in any building of any style if it be borne in mind that, from our point of view, a church must be altar-centered with adequate place for the reading and the preaching of the Word, and that convenient arrangements for public baptism must exist.

An architect has only to remember these things in designing a church for us: start with an altar and build a church around it.

(Ed. Note: Compare with Reformed Tradition)



CONGREGATIONAL CHURCH, SPENCER, IOWA

***Harold Spitznagel & Associates,
Architects***

***Wallace S. Steele, in charge of project
James M. Walsh, Associate Architect
Bolt, Beranek & Newman, Acoustical
Consultants***

***Spencer Construction Co., General
Contractor***

THIS SKILLFULLY DESIGNED and detailed church provides a worship center for a middle-sized congregation. Structure employs steel bar joists and laminated wood members. Exterior walls are of face brick and interior walls are variously wood, plaster or brick. Pitched roof is of tile with built-up roof elsewhere. Ceilings use structural fir and acoustic tile. Floors are finished with vinyl asbestos tile. Heating system is hot water with multi-zone ventilating unit in the nave and a radiant system for supplementary heating.





Hedrich-Blessing



Worship and the Arts in the Reformed Tradition

By Rev. Marvin P. Halverson

Executive Director, Department of Worship and the Arts, National Council of the Churches of Christ in the U.S.A.

THE BASIS OF WORSHIP in the Reformed tradition is the recognition of God and what he has done and what he has promised to do rather than man's intentions and hopes. Such worship often has been austere because of the conviction that no physical symbol adequately can represent God in his majesty and glory and love. But it is worship of a fellowship, a community of believers who have been gathered together by God's action. The Reformed churches in New England, which we call Congregational, named their place of worship the "meeting house," for the building was the place where they met each other and as a community met their God.



In the Reformed tradition the sacrament of Baptism is that initiatory act in which a person is recognized as a member of the community. Therefore it has been considered important that Baptism take place before the entire congregation. The other sacrament of the Church is the Lord's Supper. Although it is not observed every week as hoped for and sometimes achieved in the early years of the Reformed tradition, it is central. The Lord's Supper is the celebrational "meal" of the family of God, the Church. Accordingly the Table must be large enough to suggest a banquet around which a large number of persons might gather.

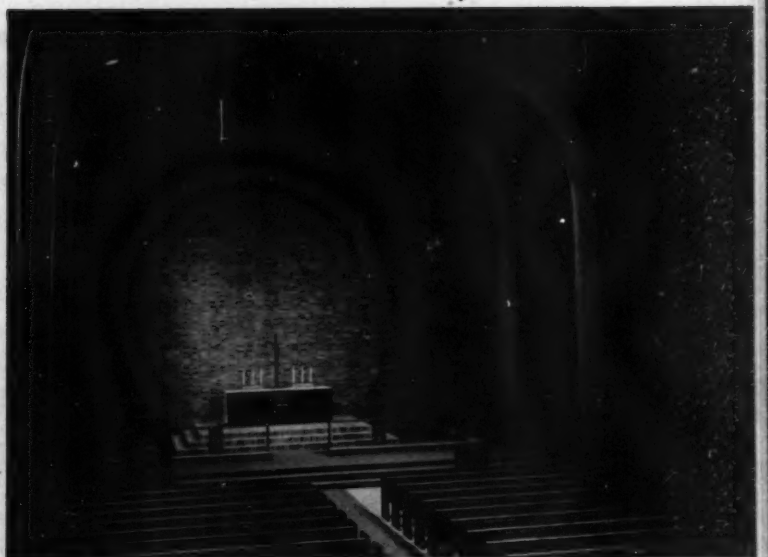
The relationship of the Table to the Pulpit is crucial. The Pulpit, in the language of the earlier years, is the "throne of the Word of God" and the sermon is "the monstrance of the Gospel." Therefore the Pulpit is the place where the Bible is read and the sermon is preached. At the Lord's Table, the Word which is preached is "acted" out as it were, so the Table needs to be related to the Pulpit. Since worship is the act of a community it is necessary that all may see the Table, Pulpit and Font and that all may hear. What is required, then, is a building which enables the Church to worship God according to its understanding of God and His ways with men.

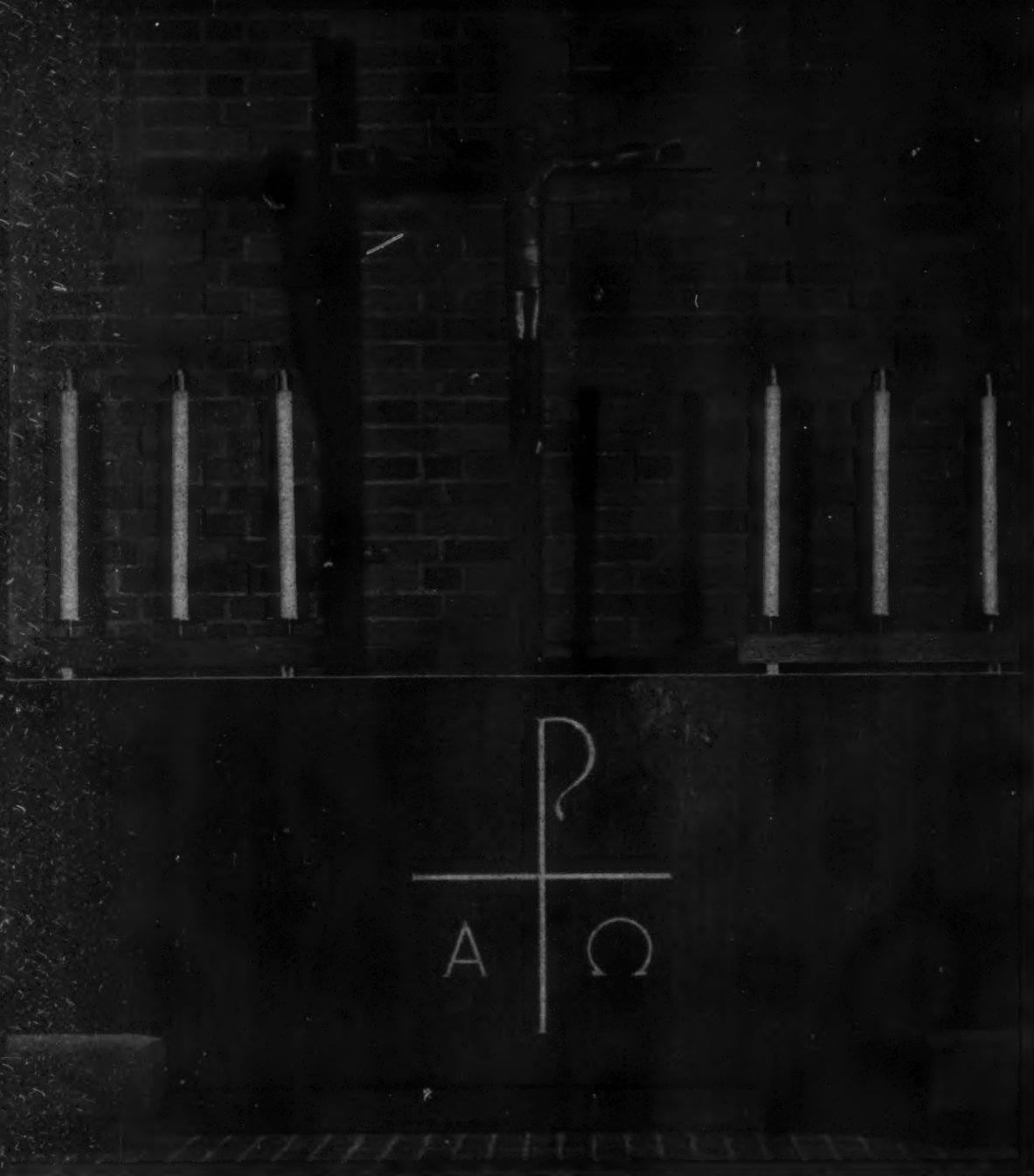


CENTRAL LUTHERAN CHURCH, EUGENE, ORE.

***Pietro Belluschi and Skidmore, Owings
& Merrill, Architects
Cooper and Rosé, Structural Engineers
Donald J. Kroeker and Associates,
Mechanical Engineers
Pettengill and Kelley, Electrical
Engineers
Albert Vik & Son, General Contractor***

THE COMPLETION this year of a nave seating 400 and a chapel for 40 brings to full realization a master plan for this congregation originally conceived by Pietro Belluschi. The parish hall and offices were completed in 1947. Laminated wood arches constitute the principal structural element. Exterior and interior walls are of brick and stained douglas fir. Roofing is built-up. Floors are asphalt tile and carpet. Hot water heating through radiant floor panels. Total cost: approximately \$100,000.00.





Northwest Photographic Illustrations

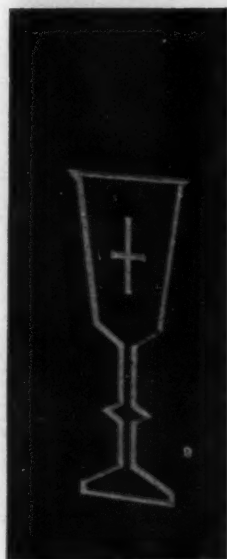
Worship and the Arts in the Lutheran Tradition

By Dr. Joseph Sittler
Professor, Chicago Lutheran Seminary

"THE WORD BECAME FLESH and dwelt among us." This statement puts one at the central place for pondering what the form of a Christian church should announce. "The Word" is Christ. He is the concretion of what God is, demands, gives.

"The Word became flesh" means that this reality, this saying, this requirement and this gift has occurred in history where men live. The Christian faith is not the bowing of men before a dream of religion; it is the adoration of men before the gracious act of God's Christ given and alive within man's history-house.

"And dwelt among us" means that this new reality is alive here and now. This dwell-



ing creates a community that responds to it, lives by the fact of it, calls itself the very "body of Christ" in the body of this world.

The Lutheran tradition is Christocentric through and through. God is the God who is revealed in Christ. The knowledge of God is what is offered in Christ. The worship of God centers in the entire Christ-deed, from birth through death and resurrection, to His real presence in the household of God, the church.

Therefore every effort to give this tradition palpable, declaratory force must set forth, point to, hold up and draw to the single Christ-center, the multitudinous details of worship. What should be celebrated in both

architecture and liturgy is not general religiousness, unspecified spirituality, or a miasmic if potent mood of sheer Otherness. The Lutheran understanding of the Christian faith asserts that all of this is intrinsically unredeemptive.

The sole, final and absolutely redemptive fact is God's deed in Christ: Christ in His historical actuality as Jesus of Nazareth, in His real presence as Lord of all things known, received and adored in His church.

(Ed. Note: This masterful statement places the burden of the formal expression of meaning squarely on the architect; proscribing only the generalized expressions so common today)



CHURCH DESIGN FOR MUSIC

By Albert R. Rienstra

MUSIC is next in importance to the spoken words in church auditoriums. It is essential, then, that the acoustical design follow some basic principles that provide for projection of musical sounds into the auditorium with maximum fidelity. The quality of organ music, for example, depends not only on the design of the organ itself but on (1) location of the organ with respect to the auditorium proper and the choir; (2) design of the organ chamber when pipes are enclosed; (3) proper size and shape of space for the pipe organ and (4) acoustical design of the auditorium.

General Acoustical Conditions

Speech for best articulation requires less reverberation than music. This is unfortunate, because compromises must be made to satisfy both requirements. Modern knowledge of acoustics, however, makes it possible to meet both requirements without great sacrifice of either. Curves in the Time-Saver Standard sheet on page 205 show recommended reverberation times for church auditoriums of various sizes.

In addition to the correct amount of reverberation times at all frequencies, it is necessary to obtain a decay of the sound energy, which in general is logarithmic. A uniform distribution of the eigentones or normal modes of vibration should be achieved by avoiding dimensions for length, width and height which are integral multiples of each other.

To prevent sacrifice in speech articulation, the pulpit and lectern should be placed as far into the nave as possible. Also, the difference between direct and reflected sound should be limited.

Since an organ produces the lowest sound frequencies of any musical in-

strument, attention should be paid to building construction in order to preserve them. To prevent absorption or transmission of low frequencies by the room boundaries, hard, heavy materials are required. Any vibration or panel effect due to lack of support in the middle only means absorption. The big cathedrals, for example, with their massive stone construction provide ideal surroundings for organ music. This type of construction may not be economical for smaller buildings and does not provide acoustical control of the sound. Therefore, a sufficient amount of the room boundaries should be constructed so as to maintain the low frequency reverberation time. The construction of the remaining area can control the middle and high frequency times.

The source of music is both vocal and instrumental. In recent times, the choir has been divided which, while not optimum acoustically, does at least leave an uninterrupted view to the altar.

Organ Placement

The organ console location is important. Each choir member should be able to see the organist. The organist should be able to hear the organ and the choir well in order to balance the two.

The organ's best location is such that the tone is projected directly to the nave with no reflection or as few reflections as possible. All too commonly the organ is divided like the choir, and if it is closer to the nave than the choir (see Fig. 1), its sound is heard slightly before that of the choir. Even though the choir and organ start together, the listener receives the impression that the organ tone predominates. Because the choir is only a few milliseconds behind

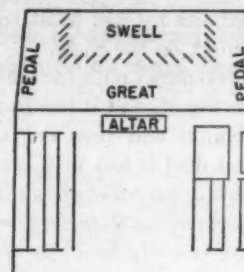


FIGURE 3

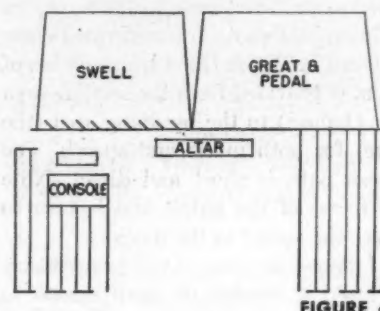


FIGURE 4

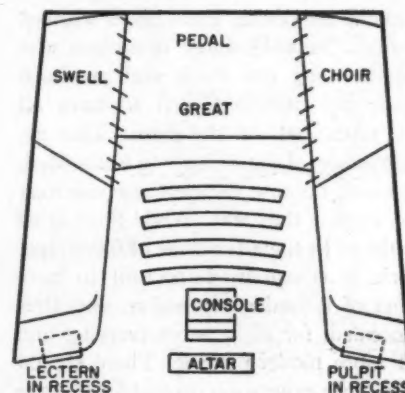


FIGURE 5

When pipe organs are at the front of the church, the best location for the organ is at the front end of the chancel. If the pipes are arranged as in Fig. 1, the organ will be heard before the choir, making it difficult for the listener to concentrate on the music. If the pipes are placed on the sides of the chancel, Fig. 2, a great deal of clarity is lost because of the indirect path that sound must travel. Figs. 3, 4 and 5 show recommended organ component arrangements for small, medium and large churches, respectively. Pedal, swell, great and choir are classes of pipes. Cross-hatches indicate shutters for loudness control of certain pipes



FIGURE 1

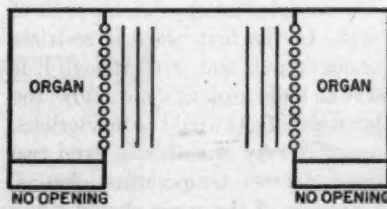


FIGURE 2

the organ, it must be much louder than the organ to be noticed properly. Under such circumstances, the psychological effect cannot be circumvented. The result is that the listener must concentrate with effort on the choir.

If there is no direct path for the organ sound, as in Fig. 2, and it has to travel into the chancel and then out to the nave, a great deal is lost in the way of clarity, especially for contrapuntal music.

A better solution is to place the organ at the front end of the chancel (considering the chancel the front of the church. See Figs. 3, 4 and 5). Thus the organ sound will have to travel farther than the choir sound and at the same time have a direct path to the nave. An optimum design for a non-divided choir is shown in Fig. 5. Good transmission of sound is provided from the sending area (the chancel) to the receiving area (the nave) for both music and speech. The speech path is short and direct. Note the recess of the pulpit and lectern to direct the sound to the nave.

If there is an altar, it will be necessary to build a reredos or cloth screen to hide the organ, unless the pipes are to have no covering, as is being done more and more. This is the ideal way to obtain the maximum tonal effect without blemish. Actually those musicians who play nothing but Bach and pre-Bach music are quite satisfied to have all the pipes out in the open. This restricted use of the organ is to be avoided, however, because the next organist may not want it that way. While there is no doubt as to the advantage of open pipework, it is equally important to have some of it under expression, and thus concealed, for choir accompanying and for more modern music. There should be smooth expression control for a range of 20 db or more. This is provided by enclosing some pipes behind shutters. The voicing of the pipes can compensate to some degree the effect of the enclosure.

In addition to the arrangements already described, another ideal one is to place choir and organ in the rear gallery (called "West Gallery" in Episcopal and Catholic Churches). In this location there is greater freedom. The choir can be placed directly in the center, facing the nave. The organ also can be placed in the center behind the choir if there is no window in the rear wall, or can be divided if there is a center window. In either case the console is placed directly in front of and facing the choir. With this arrangement the rear wall below the gallery can be deadened permanently

and the other surfaces made reflective.

In all cases the organ should be located high enough to sound over the heads of the choir, not at them. Also there should be good clearance above the tops of the pipes (at least 2 ft; the more the better). When the organ is located at the front end of the chancel the ceiling of the chancel should be as high as or higher than that over the organ, and it should not be higher than the nave ceiling so there are no pockets to trap the sound. Reflections should be from the ceiling out into the nave. If sound is directed down to the choir, absorption takes place even before the sound has started in its journey.

The organ builder should lay out the exact space required for organ installation in the early planning stages of the church. It may take a considerable amount of push by the architect to persuade a building committee to select an organ builder at this time. But if it is left to the last, the space available may be too small, have the wrong shape, or have one or more dimensions of unsuitable size.

Sizes for pipe organ sections given in the Time-Saver Standard sheet on Page 205 are conservative. They provide an adequate amount of space for the proper production of organ sound and for maintenance. When it is absolutely necessary to use awkward locations, the details should be worked out accurately with the organ builder before any building construction is commenced. In fact, the only safe course to follow is to have the detailed organ specification on all jobs drawn up and the organ contract let to a reputable builder at the time the building plans are being made. Thereafter, absolutely no changes should be made in what might seem to be insignificant details without the organ builder being consulted. The character of the sound of organ pipes depends just as much on location as on their design, especially when placed in an organ chamber which is an open ended box. Each chamber and auditorium has its own particular effect on the character of the sound of organ pipes.

A pipe organ should not be installed where a stained glass window or any window occupies an appreciable area of the wall. In the first place it restricts the organ layout, and, even though it is possible to build around the window, the temperature effects would be deleterious. An organ is very sensitive to even two or three degrees temperature change. Also, sections of the organ should never be placed at different levels unless some

means is provided to keep the temperature constant at both levels throughout the year. If the organ is tuned when the upper level is at 75 F and the lower level is at 70 F, the organ will be in tune only when these temperatures exist at their respective levels.

Careful attention must be given to acoustical treatment of the organ space as well as to the acoustical design of the main portion of the auditorium. For example, walls adjacent to organ pipes should have hard surfaces (Keene Cement), well backed up by supports to prevent any vibrating panel action at low frequencies below 100 cps. If pipes are in a chamber, the sidewalls and ceiling should have a slight slope to reflect sound outward through the front opening. Provision should be made for placing one rank of pipes in the open, preferably outside the chamber but *not in the chamber opening*, as used to be the common practice. As the size of the instrument increases, more and more pipes should be placed outside the chamber.

Attempts to correct reverberation times of auditoriums by adding acoustical treatment has often proved detrimental to organ tone. The trouble may not be too much reverberation, but the wrong kind. It is very difficult to get good musical results in a dead room. If the reduction of reverberation is carried too far, sound reinforcement with its attendant expense and bother becomes necessary.

Glossary of Terms

RANK OF PIPES — One complete set of pipes for the whole keyboard and all of the same tone, e.g. a harmonic flute.

MIXTURE — Two or more sets of pipes which provide harmonics of the fundamental and are actuated by one set of valves. Being of higher pitch they are smaller, and because of their valve mechanism, two-rank and some three-rank mixtures take the same space as one rank which is not a mixture.

GREAT DIVISION — The main pipe division with the principal organ tone. It is usually unenclosed.

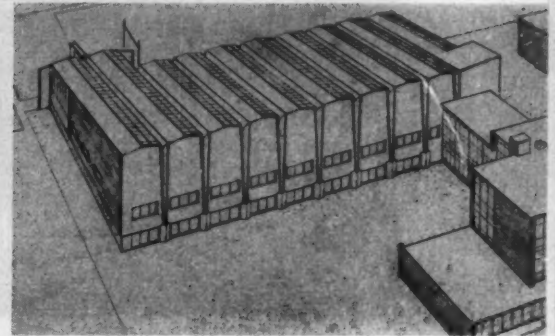
SWELL DIVISION — The swell has a different tone color for contrast and is behind shutters for expression swell effects. Hence the name.

CHOIR DIVISION — A softer accompanying division, also enclosed. Lately it provides a third contrast.

PEDAL DIVISION — The pipes played from the pedal board with the feet to provide bass and also solo effects.

GYMNASIUM STRUCTURES

Large, unobstructed gymnasium interiors — for schools, colleges and playgrounds — are essential not only for sports activities but also for proper viewing of them by spectators. Four unique structures which have been designed toward this end are presented on these pages

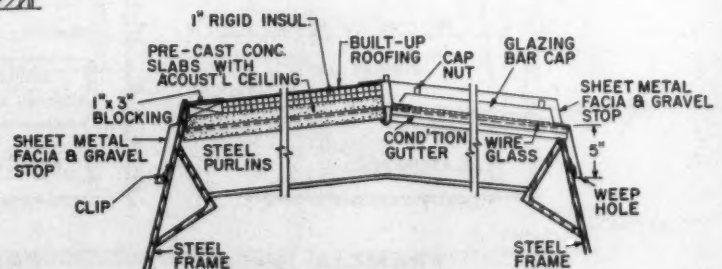
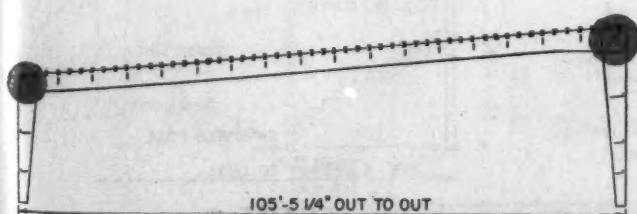
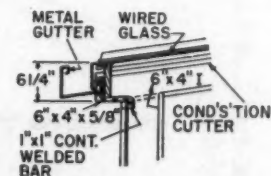
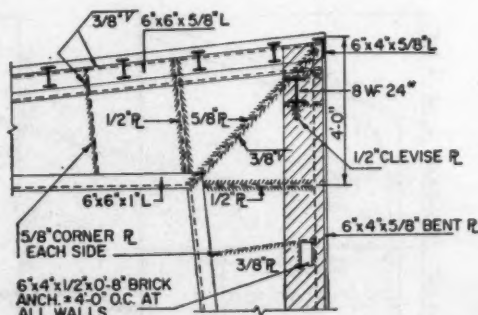
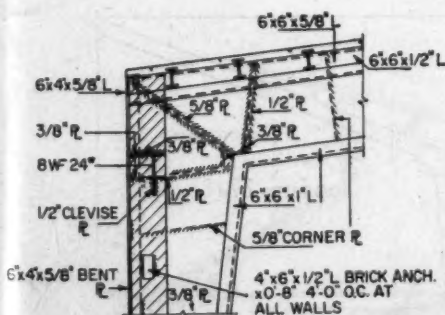
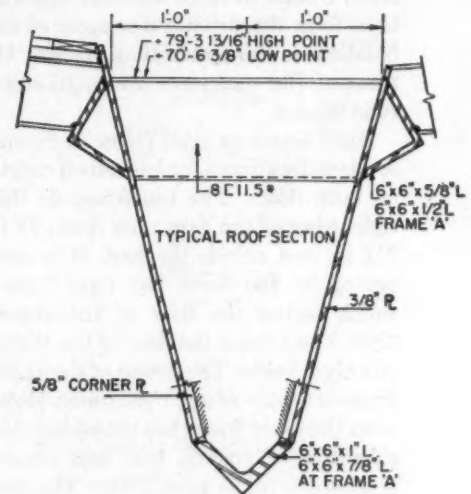


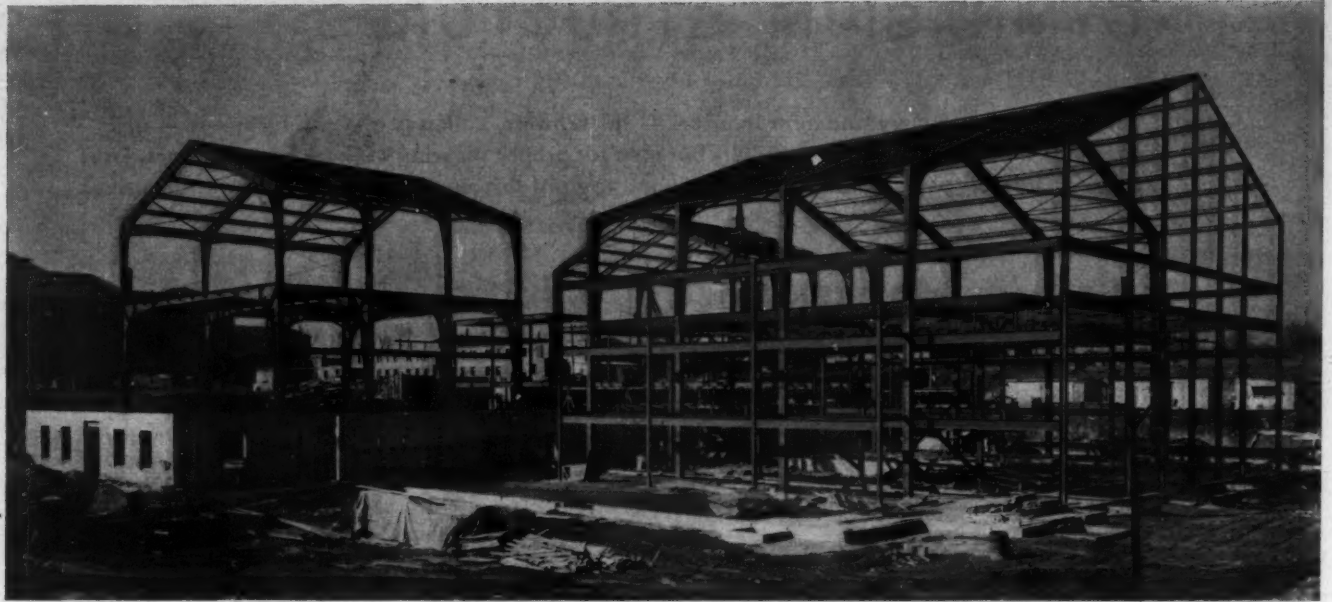
St. Patrick's Academy, Chicago, Ill.
Belli & Belli, Architects and Engineers

Nine V-shaped girders were used to frame this 178- by 105-ft gymnasium structure in order to have "girders that would give a finished appearance rather than the usual truss appearance, also to have a finish strong enough to take any shock or abuse that students might give it." The frames, according to the architect, were designed so that they could have been constructed by at least 90 per cent of the structural shops in the Chicago area. As shown in the typical roof cross section, $\frac{3}{8}$ -in. steel plates were welded to a 6x6 toe angle. The boxed appearance of the girders on the interior of the gym was achieved by welding $\frac{1}{2}$ -in. and $\frac{3}{8}$ -in. closure plates around the V shapes. Both the inside

and the outside of the steel framing members are painted. In order to have duplicated this appearance with a standard rigid frame, the sides of the section would have had to be covered with plaster or with additional steel plates.

Steel purlins span the distance between frames and support the roof covering. As can be seen in the interior photograph above, the roof sections are alternately wired glass skylights and concrete slabs with built-up roofing. Gutters catch the condensation from the glass and carry it down through the V to be drawn off in a steel drain in the base concrete. There has been no trouble with condensation forming on the underside of the steel plate.





Wake Forest College Gymnasium, Winston-Salem, N.C. Larson and Larson, Architects—Watson & Hart, Structural Engineers

Rigid frames in three different applications form the structural support of the buildings in this gymnasium system. All three of the structures are multi-story rigid frames.

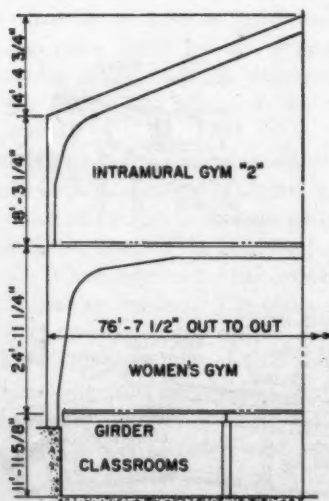
Rigid frame on rigid frame in Frame A allows headroom for basketball courts on both floors. The top frame in this right wing of the gym area spans 76 ft 7 1/4 in. and carries the roof. It is supported by the lower flat rigid frame, which carries the floor of Intramural Gym 2 and spans the floor of the Women's Gym below. The design of the upper frame is typical of any rigid frame. However, the lower frame has the added consideration of column load and tie-rod tension due to the upper frame. The con-

nection between the two frames is designed to carry the column load in bearing and the tension in shear. The column bases of the lower frames are supported on concrete walls and are tied through the lower gym floor system.

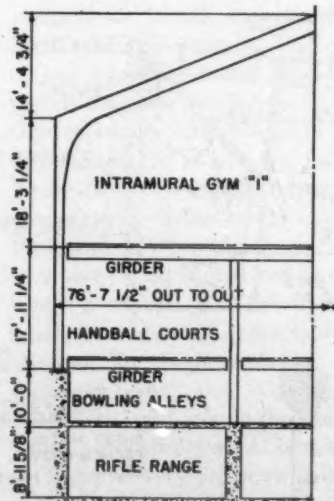
The left wing, Frame B, consists of a rigid frame roof structure which spans 76 ft 7 1/4 in. The column sections are supported by concrete walls, with the floor system of the handball courts carrying the horizontal forces which develop at the base of the columns. Due to the large tensional force at the floor of Intramural Gym 1, the column bases tend to deflect inward, making the force at the column bases a compressive load. Thus, no special connections were re-

quired in the handball court floor system. Welded plate connections carry the tension at the gym floor level.

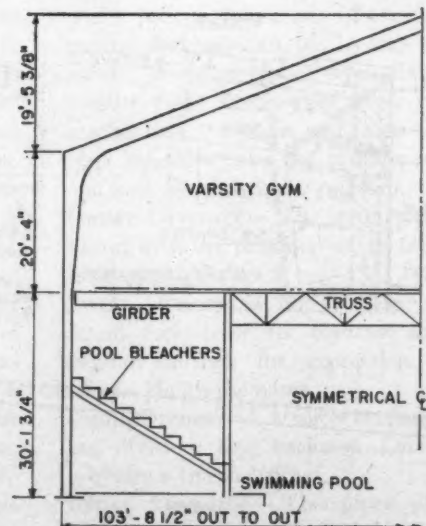
The Varsity Gym, Frame C, is supported by a rigid frame roof structure spanning 103 ft 8 1/2 in., with the column sections continuous to the footings. The principal horizontal (tie-rod) forces are carried through the top flange of the floor girders and top chord of the floor trusses. To transmit these forces, welded plate connections were used to connect the frame to the girder flange and the girder flange to the truss chord. The horizontal forces at the base of the columns are not large and are carried by the footings. The floor truss provides a 52-ft clear span over the swimming pool.



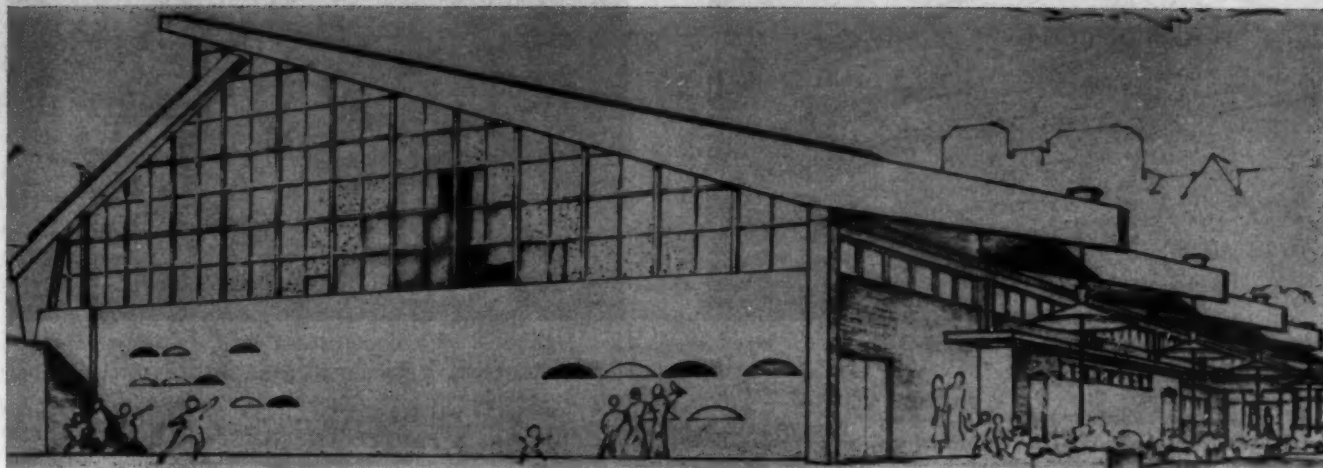
FRAME A



FRAME B



FRAME C



Two separately cantilevered roof segments supported by laminated wood beams which are not structurally connected cover this small-scale children's gymnasium. The unsymmetric arrangement was determined because (1) the building is primarily a place for children to play during the daytime and so the secondary spectator areas could be placed away from the center of activity; (2) it lends itself to the use of a clerestory for attracting daylight and warm sun; (3) it overcomes the effect of a low ceiling.

The larger of the two roof segments, covering a regulation-size basketball court, will be supported by six 93-ft $5\frac{1}{2}$ -in.-long laminated Douglas fir beams spaced on 22-ft centers. They will be cantilevered 69 ft from the side wall columns and will be restrained by $2\frac{3}{8}$ -in. round steel rods 20 ft outside the building anchored in a concrete deadman. Beam depth will taper from 5 ft $6\frac{5}{8}$ in. at the column support to 2 ft 2 in. at one end and 2 ft 10 in. at the other. The

free ends of the beams will be joined by light welded steel girders to equalize live load deflections at the end of the cantilevers and to provide support for clerestory windows.

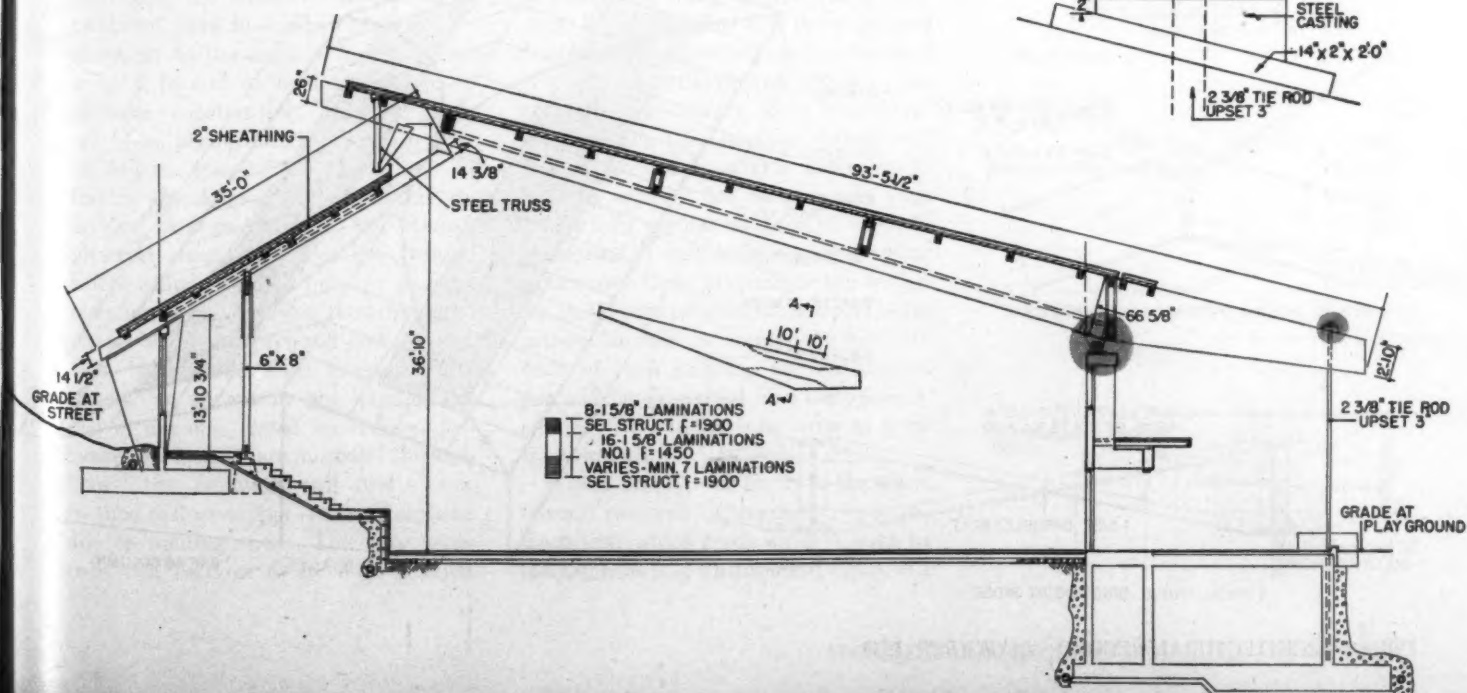
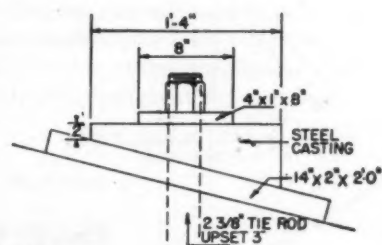
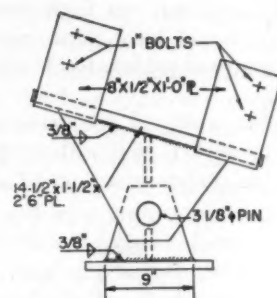
The other roof segment, covering the bleachers, will be supported by 9- by $16\frac{1}{4}$ -in. laminated beams on 11-ft centers. These 35-ft-long beams will be cantilevered 20 ft from interior columns and tied down to exterior wall columns.

The interior portions of the beams will be finished naturally. The external portions will be sheathed in aluminum at the top and end grain and painted with an opaque pigment paint at the sides and bottom. All roof loads will be transmitted to footings and lower walls.

The resulting 80- by 110-ft gymnasium, only about 34 ft high at the peak, will give the impression of being a large, airy building. The bleacher area takes advantage of the sloping site. The low concrete walls will be surmounted by colored translucent plastic panels.

Upper Noe Playground and Fieldhouse, San Francisco, Calif.

Donald Beach Kirby & Associates, Architects and Engineers





Phil Fein



San Mateo High School Girls' Gymnasium, San Mateo, Calif. John Lyon Reid & Partners, Architects and Engineers

A steel space frame, supported by two longitudinal walls and two end-wall columns, is the roof structure of this 80- by 94-ft gymnasium. The resulting open area, requiring no interior column supports, showed economies in the amount of steel used and also in installation costs, since the space frame required 30 to 40 per cent fewer connections than would have been required with conventional gabled steel bents and purlins.

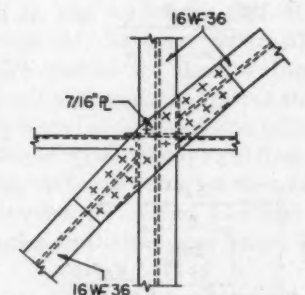
The 80-ft width of the building is spanned by 16 WF 36-lb rafters spaced 7 ft 2 in. on centers in a 4 on 12 pitch.

The rafters are supported by longitudinal walls at the eaves and butt against each other at the ridge. Since there is no direct vertical support — column or beam — at the ridge, the rafters support each other and, as a result, exert a thrust in the plane of the roof. This thrust is resisted by two parabolic arches, also of 16 WF 36-lb straight segments inserted between the rafters. These arches follow the shape of an imaginary moment diagram created by the equal thrust of the rafters on a simple beam spanning the entire length of the building. The compression in the arch at the four corners of the building is resisted by tensile forces in ties along the top of the perimeter walls. These ties are 24 WF 76-lb members in the side walls and 16 WF 36-lb members in the end walls. Two 8 WF 48-lb column

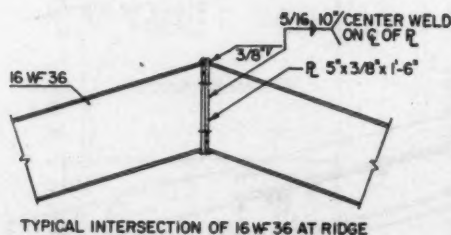
ridges at the ridge in the end walls resist the vertical forces developed at these points. All connections were simple flange-to-flange joints made with high-strength bolts.

Seven rows of light angle cross bracing provide support for the rafters against lateral buckling under vertical load. This same bracing system transfers earthquake or wind forces to the arch when these forces act in the longitudinal direction of the building. It is not necessary to provide any additional structural members or to use roof covering materials to resist these forces.

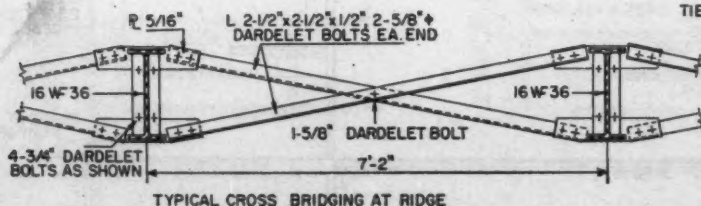
The exterior of the building is diagonally sheathed with 2-in. straight sheathing, on 2x10 studs in the end walls and 2x8 studs in the side walls, 16 in. on centers. The roof is also covered with 2-in. straight sheathing. The roof framing is exposed inside the building.



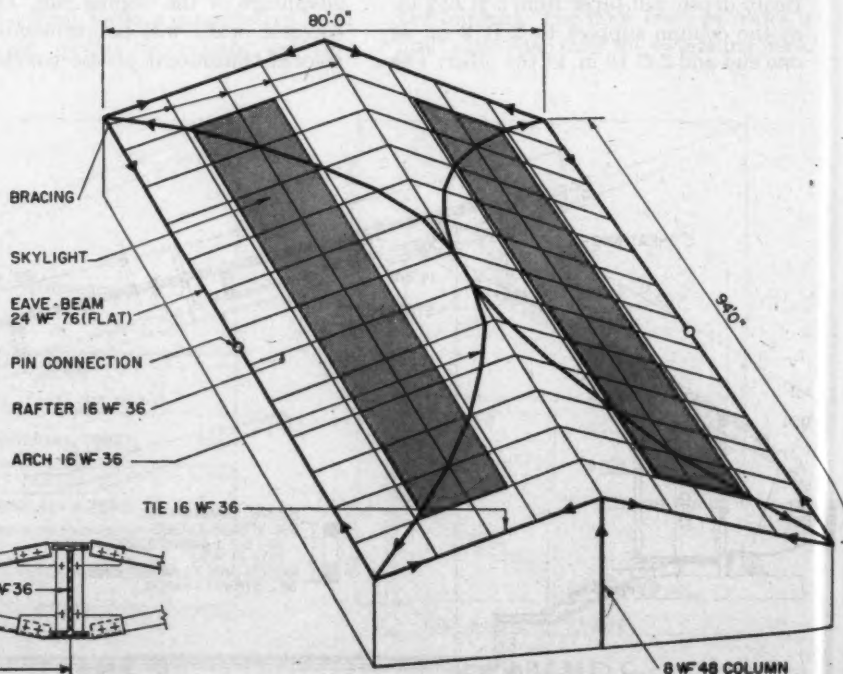
TYP. INTERSECTION-PARABOLIC ARCH AT 16 WF 36 PURLIN



TYPICAL INTERSECTION OF 16 WF 36 AT RIDGE



TYPICAL CROSS BRIDGING AT RIDGE



"LUXURY" HOUSING WILL BE CONSTRUCTED FOR OPERATION DEEPFREEZE IN ANTARCTIC

Operation Deepfreeze, probably the most carefully engineered polar expedition in history, got under way last month with the sailing of U. S. Navy Task Force 43 for the Antarctic carrying equipment, materials and personnel for constructing bases. This construction team will provide the most luxurious living possible in an area where temperatures may drop as low as -100°F . Comfortable barracks, washrooms, mess halls and recreation rooms, all carefully secured and insulated, will boast efficient heating and ventilating systems, power supply and (where necessary) water supply. All possible precautions have been taken to avoid hazards such as those which were encountered by Rear Admiral Richard E. Byrd, retired (also Officer-in-Charge of this operation), on previous expeditions.

Construction of these units will prepare the way for United States participation in the program for the International Geophysical Year, 1957-1958. Plans call for the establishment of more than 20 stations by 11 nations in the Antarctic region for the purpose of conducting studies in the physical sciences from the ocean floor to levels 200 to 300 miles in the air. The United States will construct an air operations facility, with an 8000-ft snow-compacted runway, at McMurdo Sound, and three bases, a main one located at Little America and satellites at Marie Byrd Land and the South Pole.

The prefabricated housing designed to withstand the Antarctic cold is being produced here in sandwich panels for shipment to the south. The panels are 4 by 8 ft and so lend themselves to modular construction. Basically they are $\frac{1}{4}$ -in. plywood sheets on both sides of $3\frac{1}{2}$ -in. glass fiber insulation. As further insulation, an aluminum reflective skin is glued to the interior plywood sheet. Exteriors are painted before shipment, but only to prevent moisture seepage during the trip. Floor panels are $\frac{3}{8}$ -in. plywood and are laid over high-tensile steel trusses. Roof panels, as shown in the photograph above, are also rested on trusses. Because of heat transmission through floors, the buildings will use a new method of floor support to avoid shifting due to melting snow. The floor truss ends will rest on 6- by 8-in. wooden

beams laid across wooden pads, which will be made up of 4- by 8-in. planking. These pads will be placed $2\frac{1}{2}$ ft outside the structure. Thus, transferred heat can escape through the intervening space without melting snow under the pads.

The panels are tongue and groove and groove and spline, as shown in the exploded view of a section of a roof and wall panel and their parts. A cold-weather rubber gasket will be inserted at the roof line, and canvas tarpaulins will be battened down at the eaves to keep snow from penetrating.

Because of the severe weather conditions under which the buildings will have to be constructed, extensive testing was conducted at the Detroit Army Arsenal on a unit erected at a temperature of -90°F (see photo above). The interior temperature was run to $+90^{\circ}\text{F}$ while the exterior temperature was held at -90°F , with reported excellent performance results. It was estimated that one 20- by 48-ft unit could be erected under these conditions in 60 man-hours.

Eighty separate buildings will be constructed at three bases and the air facility ranging in size from 8 by 8 ft to 20 by 96 ft. There will be scientific towers and buildings, galleys and mess halls, dormitories, power buildings, administration, utility, laundry, storehouses, ship's stores, recreation rooms and sick bays. In addition, there will be an operating room at each station and a dental station at one.

There will be just one power plant per area, built up from diesel-driven generators. Each building will have its own heating and ventilation system. Oil-fired jet heaters will provide 56,000 Btu through high-velocity ducts. Safety precautions for this heating system will include carbon monoxide detectors as well as regular fire watches. In case power fails, regular oil space heaters will be located in each building, with ceiling fans above them to circulate the heated air. A 350-cfm exhaust fan and a 415-cfm intake fan will be located at opposite ends of each building for ventilation. Air will be exhausted into tunnels connecting the buildings, in order to keep them warm.

Water supply will be from the most natural resource in the region — snow. Each unit which needs water — such as the kitchens and washrooms (which will



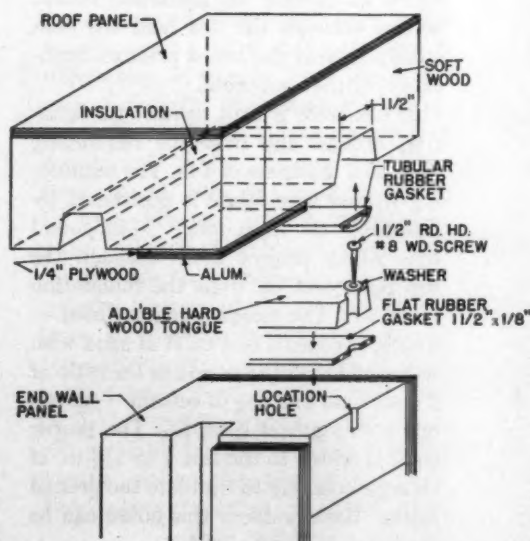
have showers as well as other toilet facilities) — will have a snow-melting tank with heat-exchanger coils. All available heat sources will be utilized, including generator exhaust, heat from kitchen flues, etc.

Buildings at the three bases have been designed for eventual complete submersion under snow and so require snow loads of 125 psf and wind loads of 100 mph. Although the buildings are expected to last indefinitely, a life of 5 years has been designated, but only because depth of snow will eventually make re-supply impossible. Each building will be surrounded initially by a 10-ft snow wall for fire protection. Ramps will lead down to the buildings, and tunnels will connect them.

The time schedule for Operation Deepfreeze has been projected as follows:

November 1955 — Task Force 43 of seven U.S. Navy ships sailed for Antarctica carrying all construction equipment necessary to build the three bases and the air operations facility, transportation equipment for carrying ma-

(Continued on page 212)



CONCRETE IS "SHOT" AT HOUSE AND PATTERNED INTO TEXTURES



Although this house appears to be faced with Tennessee crab orchard stone and V-joint siding, it is actually an all-concrete house, except for the wood trussed roof. While in this case the builder has chosen to simulate other building materials, the process is essentially one of applying a selected pattern with a template, thus opening up wide possibilities for textured concrete surfaces. Here is how this three-bedroom concrete house, priced between 12 and 13 thousand dollars (including lot), is built:

1. Exterior concrete walls are erected without forms by "shot-creting." The concrete is shot against insulation board, a minimum of $\frac{3}{4}$ in. thick, which is notched into a $2 \times 7\frac{1}{4}$ -in. wooden top plate and recessed 12 in. into the foundation. Triangular jigs and whalers hold the insulation board erect. They depend entirely on gravity to resist the thrust of the shot-crete. Two-by-four stringers tie the tops of the opposite walls together for additional rigidity during shooting. Steel window sash has fins around the perimeter of the frame which fit against the insulation board. Screws through the fins hold the sash steady against the board prior to application of the shot-crete.

2. Concrete is shot against the exterior, around and over the reinforcing wire, to a thickness of 4 in. The reinforcing welded wire fabric is positioned by fastening to 12-in.-long, $\frac{3}{8}$ -in.-round rods which project down through the top plate and up from the foundation every 5 ft. The concrete mixture used — a sack of cement to 4 cu ft of sand with water added at the nozzle in the ratio of $2\frac{1}{2}$ to 3 gal to a bag of cement — develops a strength of 6000 psi. The proper color is added to the last 1 to $1\frac{1}{2}$ in. of exterior concrete to simulate the desired facing. Basic walls of this house can be shot in a day and a half.

3. After the exterior has been shot and has set a few hours, all interior bracing is removed and reusable plywood forms for interior partitions are set up. Sheet aluminum foil is applied with mastic over the interior insulation board and reinforcing fabric positioned. Conduits for wiring, television and telephone are placed before the interior shot-crete is applied to a depth of $2\frac{1}{2}$ in. The last layer is colored concrete to simulate white plaster or Roman brick.

4. A "cut-off screed" strikes off the interior concrete to a smooth, flat surface (interior wall in picture has been leveled previously with this tool). Tension, applied to one side of the 8-ft tubular steel frame, tautens a piano wire which cuts the rapidly setting concrete to a level surface.

5. The wall system is completed by marking off on the exterior shot-crete various stone facings by means of galvanized steel templates. The 7- by 3-ft steel sheets are slotted into patterns resembling the spacings of different stone facings: coursed ashlar, Tennessee crab orchard stone, cut limestone or random field stone. The light template is held in place by one worker while another marks. Levels (just above right hand and to the far left) assure accuracy of marking. Then the markings are cut back, with a tubular thin steel cutting tool, through the colored concrete to the darker colored natural concrete to form deep, raked "mortar joints" between the "courses of stone."

The 4-in. exterior wall qualifies under the American Concrete Institute Code as a bearing wall. In combination with the insulation and the $2\frac{1}{2}$ -in. interior wall, it has a computed U factor of 0.27. Fire resistance is high, since only the roof is combustible. Even the area around the front door is concrete formed into conventional paneling and painted white to resemble woodwork. Fire resistance is increased further if an exposed beam instead of a trussed roof is constructed by use of a 4-in. shot-crete bearing partition through the center of the house. The special techniques and tools for this construction method were developed by a Virginia builder, Merle H. Gillespie, Jr.

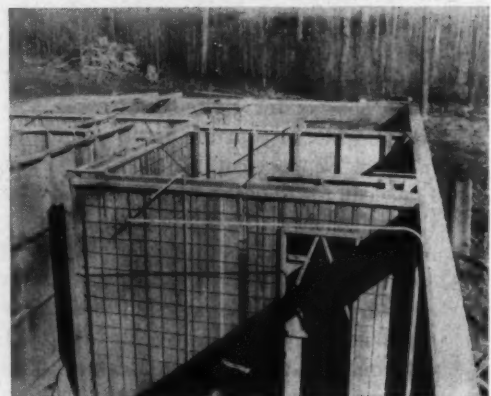
(More Roundup on page 212)



1. Insulation board is braced for shot



2. Concrete is shot against exterior



3. Interior is prepared for shot-creting



4. Interior concrete walls are smoothed

5. Exterior concrete is cut to pattern



PRODUCT REPORTS

Materials / Equipment / Furnishings / Services

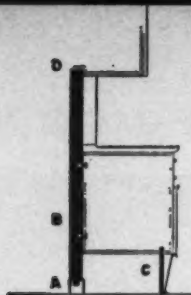
"INTEGRATED" KITCHEN IS FREE-STANDING AND MODULAR—FEATURES BUILT-INS, "COMMUNICENTER," LIGHTING, WIRING

An "integrated" kitchen has been designed by Frigidaire engineers for production in limited numbers next spring and in quantity late next year. The "Frigidaire Holiday Kitchen" is complete, including all the necessary basic units and then some. Free-standing and modular, it has its own interior walls, lighting, plumbing and exhaust facilities.

The Holiday Kitchen pictured at right has (from left to right) a French-door wall oven equipped with a device that dissipates smoke; a 10½-cu ft Panoramic refrigerator, below which is a 6-cu ft drawer-type freezer; four Fold-Back surface cooking units; a push-button, self-rinsing sink; an automatic dish-washer. Base and wall cabinets for storage are integrated into the over-all kitchen arrangement. On the rear wall

a "Communicenter" features a built-in radio, "hands-free" telephone, intercom and door chime, pull-out vanity complete with mirror, pull-out memo pad, three-way wrapping material dispenser, and lighter, ashtray and cigarette box. Perimeter lighting for the kitchen and cabinet interiors is concealed in a soffit above the wall cabinets, which also conceals ducts for air conditioning and a built-in exhaust system. A separate lighting panel under the cabinets illuminates countertop work areas.

A practical feature of the kitchen is that it eliminates the need for finished walls. The foundation is a steel leveling rail which is bolted to the floor (A). Steel uprights or struts (B) interlock with the leveling rail, and the backs of the lower units are bolted to them. The fronts of the lower units rest on adjust-



AE



able front supports that are completely out of sight (C). The uprights provide a rigid base to hold the upper units (D). All units have plumbing and wiring sections provided, so that only interconnection is required. *Frigidaire Div., General Motors Corp., Dayton 1, Ohio.*



ELECTRONIC RANGE COOKS AT "HIGH SPEEDS" WITHOUT HEAT

The art of cooking has joined the ranks of electronic wonders. An electronic range for the home, which cooks in a cool oven by means of microwaves, has been developed by Tappan Stove Co. with the help of Raytheon Mfg. Co. engineers. As shown in the photograph, left, the range looks like a standard built-in oven, but the inside remains cool even during the cooking process. This is possible because of the nature of the microwaves, which are simply a particular type of high-frequency radio energy. These rays are absorbed, and so produce heat, in the foods. However, they are reflected from or pass through the air in the range, the range itself

and the cooking utensils. Therefore, foods can be cooked on paper if so desired (bacon, for instance), because the paper simply transmits the heat. No potholders are necessary to withdraw most cooking utensils after cooking.

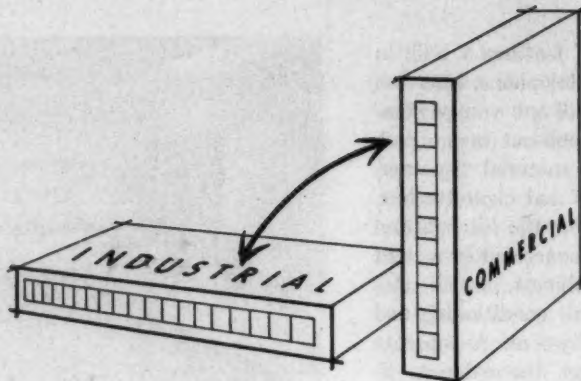
The range operates by time control rather than temperature. The housewife simply sets the timer to the required setting, and the timer, as well as the microwave cooking, stops any time she opens the door to check the food. All cooking is speeded up, with a 5-lb rolled rib roast done in 30 min, a potato baked in 5 min, a two-layer cake baked in 6 min, etc. In addition to speed, the range boasts cooking in a cool atmosphere, elimination of danger from burns and ease of cleaning, since there is no burning or scorching. Tests have shown that no physical change takes place in the food except that normally produced by heat. The cost is high, expected to retail between \$1000 and \$1200, but the manufacturer claims it can be discounted because of savings in fuel and time. It operates on 220 volts, and is assigned an FCC wavelength of 2400 megacycles (will not interfere with radio or TV reception though). The range will be available in some parts of the country before the end of the year. *The Tappan Stove Co., Mansfield, Ohio.*

(More products on page 228)



THERMOSTATIC SHOWER CONTROL REGULATES TEMPERATURE

Shower control that is both economical and attractive is provided with the Powers Type H Hydroguard. One thermostatic control dial regulates all temperatures of water in the standard range from 65 to 110 F. A thermostatic mixer protects against both pressure and temperature variation. New Triple Duty strainer-check-stop fittings are concealed beneath the styled cover and are accessible by removing the dial. Bulletin 366 gives full information. *The Powers Regulator Co., 3400 Oakton St., Skokie, Ill.*



PLANNING MODERN POWER DISTRIBUTION

The consumption of power in commercial buildings has, on the average, doubled in the past 20 years, according to General Electric, and will continue to accelerate. With this thought in mind, GE states that all new commercial structures should be planned for loads at least double those presently required, and aging buildings should undergo complete electrical re-design. As shown in the drawing at the left, the assertion is made that commercial buildings resemble, in volumetric area and power requirements, factories tipped on end and so can utilize many industrial power distribution practices, specifically higher voltage. Two brochures will help architects and engineers plan high-voltage systems: *Modern 480Y/270-volt Power Distribution Planning Guide* (20 pp., illus) describes the features of the high-voltage system for commercial buildings, and *Modern Distribution Equipment for Commercial Buildings* (24 pp., illus) describes the equipment. General Electric Co., Section 680-1A, Schenectady 5, N. Y.*

Tiling Guide for estimating units and quantities of modular glazed facing tile needed for any job is a 4- by 9¼-in. cardboard slide calculator keyed by scales and colors. Red, green and black color codes and sliding tables aid in designing, laying out and estimating stretchers, bullnose jamb, window sill and window lintel requirements, proper use of mitre fittings, etc. The guide, together with an instruction sheet, is available at a cost of 50¢ from *Stark Ceramics, Inc.*, Box 230, Canton, Ohio.

Ventilating Fans and Range Hoods. The *Kitchenaire* line for homes is described, with specifications and installation data, in a 4-page illustrated brochure. AIA File 30-D-1. *Stewart Industries, Inc.*, Indianapolis, Ind.

Porcelain Enamel. A folder designed to provide accurate knowledge on monumental building applications of porcelain enamel contains a set of details on such applications as honeycomb core panels, plywood core panels and copings. These details are the beginning of a series which will eventually be a complete data book. AIA File 15-M-1 (NN). *Bettinger Corp.*, Waltham, Mass.*

Store Lighting. *Some Hows and Whys of Modern Department Store Lighting* is an illustrated, 24-page brochure written by a group of lighting engineers to cover such topics as wall display and showcase lighting, accent lighting, mass display lighting and supplementary and service area lighting. *Sylvania Electric Products Inc.*, 1740 Broadway, New York 19, N. Y.*

Automatic Emergency Lights for instant floodlighting for hours whenever regular circuits fail are cataloged in a 4-page illustrated brochure from *U-C Lite Mfg. Co.*, 1050 W. Hubbard St., Chicago 22, Ill.

Heating Equipment. A new line of packaged oil heating units and hot-water baseboard heaters is described, with specifications and dimensions, in a 4-page illustrated bulletin from *Palco Mfg. Co.*, 231 No. Broad St., Philadelphia 6, Pa.

Aluminum Building Wire for commercial electrical circuits, Type TW, is described, with data tables and installation photographs, in an 8-page brochure from *Kaiser Aluminum & Chemical Corp.*, Industrial Service Div., 1924 Broadway, Oakland 12, Calif.*

Power Roof Exhaust Fans. *Gallaher Air-Vans* are pictured in a number of installations, and a list of other buildings in which they have been used is included, in a 4-page bulletin from *The Gallaher Co.*, 4108 Dodge St., Omaha, Neb.

Sliding Windows and Doors. A new catalog contains illustrations of head, jamb and sill details for *Arislide* aluminum sliding doors and windows and steel sliding doors, with complete installation details for use with frame and stucco, frame and rustic or cement block. 16 pp., illus. *Michel & Pfeiffer Iron Works, Inc.*, Metal Windows and Doors Div. (N. K. Juvel, Mgr.), 212 Shaw Rd., South San Francisco, Calif.

Structural Wood Products. *Homes of Permanence and Beauty* is an 8-page brochure which shows floor plans with structural schemes and photos of interiors and exteriors of eight homes which use wood structurally. AIA File 19-B-3. *Timber Structures, Inc.*, P. O. Box 3782, Portland 8, Ore.*

Stainless Steel Siding, in mansard pattern, for single-sheet and sandwich wall building construction is described in *Bulletin 70-5*. 4 pp., illus. *Joseph T. Ryerson & Son, Inc.*, P. O. Box 8000-A, Chicago 80, Ill.

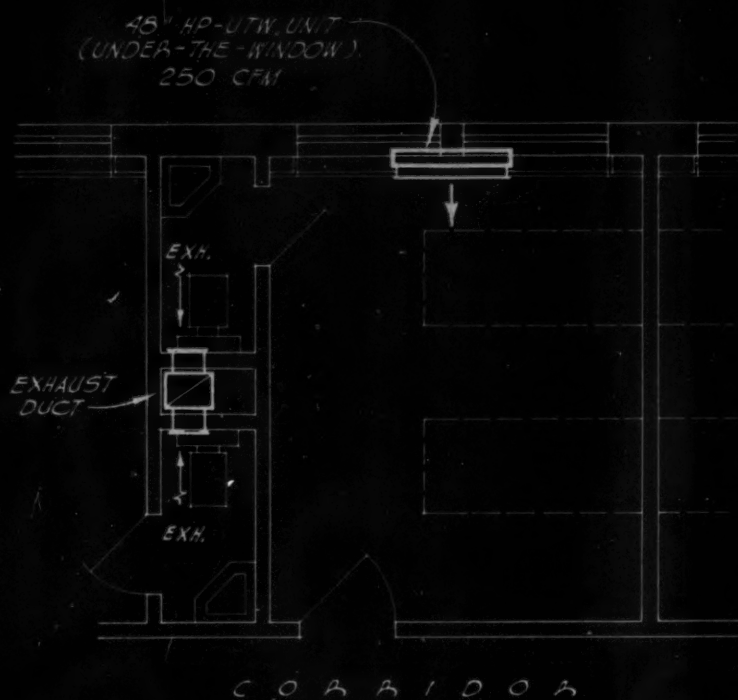
Timber for Recreational Buildings is a 22-page booklet which pictures installations using *Teco* timber components and lists roof truss fabricators throughout the country. *Timber Engineering Co.*, 1319 18th St., N.W., Washington 6, D. C.

Incandescent Recessed Lighting Fixtures are presented in a catalog bound in metal binders containing over 150 illustrated pages. The *Marco Alpha 100* catalog is available from *Marvin Mfg. Co., Inc.*, 648 So. Santa Fe Ave., Los Angeles 21, Calif.

Architectural Porcelain Enamel. *Sketch Book No. 3* contains complete descriptive material, specifications and detail drawings on filled and insulated porcelain enamel wall panels for both curtain walls and sash frame installation. 12 pp. *The Erie Enameling Co.*, Erie, Pa.*

*Other product information in *Sweet's Architectural File*, 1955.

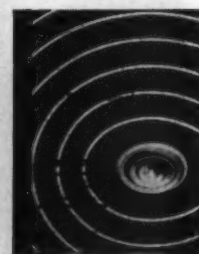
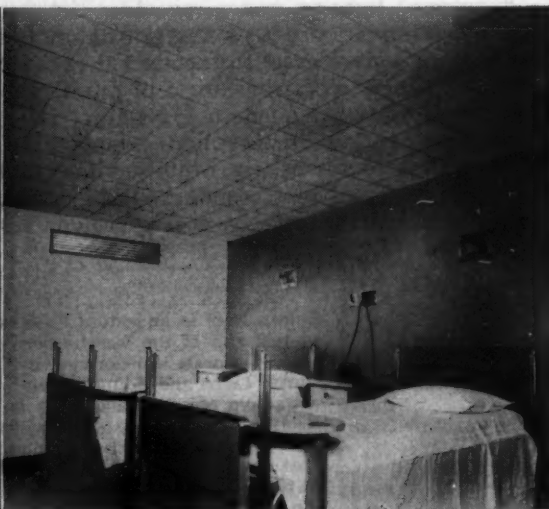
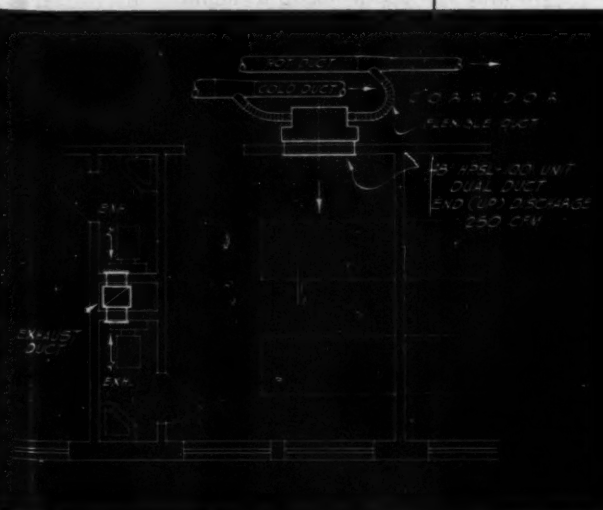
(Continued on page 268)



All-air high velocity units for hospital air conditioning

In successful use in many hospitals throughout the country, Anemostat HV round, square and straight line units are adaptable to a wide variety of architectural designs. Diagrams and photographs show typical applications of straight line units.

The All-Air High Velocity system of draftless air distribution offers many important advantages for hospital air conditioning. High velocity units, used with smaller than conventional ducts, save space and money. They substantially reduce sheet metal required, can be installed faster, with less labor. Since there are no coils in All-Air HV units, clogging and odors are eliminated. They operate entirely with air processed in the main equipment room; no fans, filters or electric motors are needed with All-Air HV units.



• For latest data on All-Air High Velocity units, write on your business letterhead for new Selection Manual 50 to Anemostat Corporation of America, 10 E. 39 Street, New York 16, N. Y.



The Problem of the Warehouse Ceiling...

To solve the problem of creating modern, low-ceiling office facilities from high-ceiling loft space in this Chicago warehouse, General Mills' engineer, Derril Blevins, chose the Curtis Light & Sound System. The fluorescent lighting system provides lighting of 45 footcandle average illumination with a visual comfort index of 90+. The sound system gives excellent acoustical results without costly installation and also hides the jungle of pipes, wires and sprinkling apparatus creating a modern low-ceiling effect. Even more important is the savings in time and money this Curtis system will continually provide as it permits servicing, maintenance and installation of additional pipe, conduit, ducts, etc. without either the loss of time or replacement cost a regular suspended ceiling would require.



Shown here is an actual "before" photograph of the warehouse before it was transformed by Curtis Light and Sound to the modern, attractive offices above. This is another of many outstanding installation problems throughout America that have been solved by the application of Curtis engineered lighting. To receive a copy of the illustrated brochure on the Curtis Light and Sound System, fill in the coupon and mail it today. No obligation of course.



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CHICAGO 38, ILLINOIS

IN CANADA:

195 WICKSTEAD AVENUE
TORONTO 17, CANADA

Name

Address

City State

N3-GM

CHURCH DESIGN FOR MUSIC

By Albert R. Rienstra

Reverberation Times

Figure 1 gives reverberation times for church auditoriums from 10,000 to 1,000,000 cu ft in size. These values are higher than generally used for other types of auditoriums because with them organ music is enhanced a great deal and choral music somewhat. While the reverberation times for churches may fall within the range indicated by the gray band, it is recommended that the upper limit be used if possible.

The values in Fig. 1 are absolute reverberation times for the frequency range from 300 to 5000 cps. Fig. 2, then, gives correction factors to be applied to Fig. 1 for frequencies outside this range.

Organ Space Requirements

Figure 3 can be used as a guide for the allotment of pipe organ space. Figure 3A gives dimensions of the pipe space required for organs installed in one section. Solid lines apply when pedal pipes are at the sides and dotted lines when they are in the rear of this section. In large churches it becomes necessary to install the pipes in two or three sections and these situations are covered in Fig. 3B. The depth curves here have a saw-tooth shape, a tooth occurring at every place where the width increases a step. The height of organ space has only two values; 13 ft and 20 ft. If there are no 16-ft open pipes, at least 13 ft height is required for the open, 8-ft pipes. For 16-ft open pipes, at least 20-ft height is required. The height then remains constant until 32 ft pipes come into the picture. For this size, it is not possible to give estimates of space as this falls into the four manual (keyboard) and cathedral classes, and each installation becomes a special one. In the region just below this, after the depth has increased to the second maximum (Fig. 3B) three-keyboard organs are specified. For this size, a third section of width may be added, the choir-pipe division, which is placed on one side of the chancel with the swell division on the other.

Figure 1

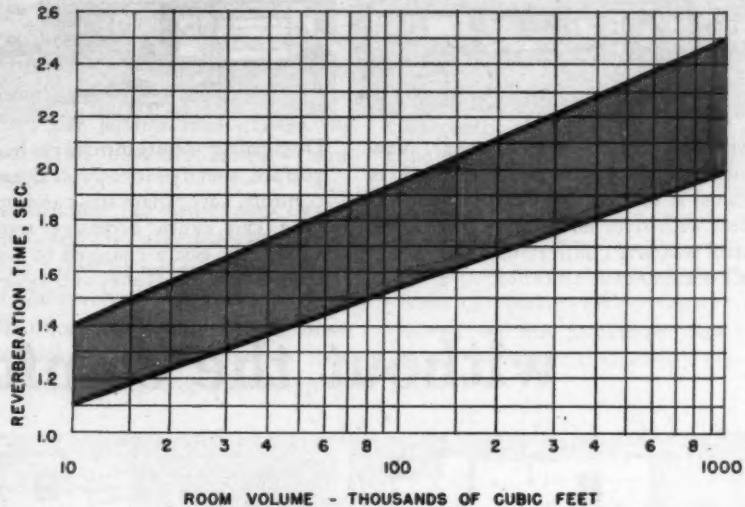
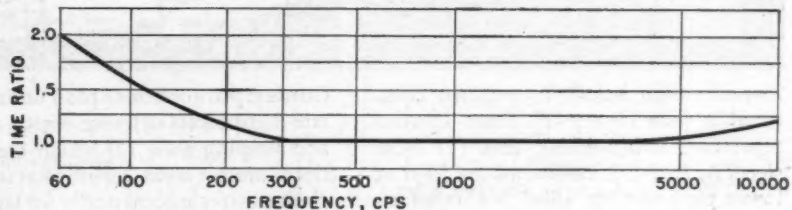


Figure 2



Modified from Beranek

Figure 3A

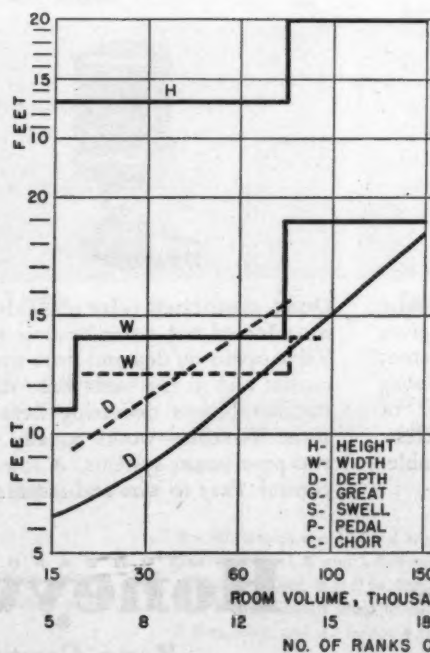
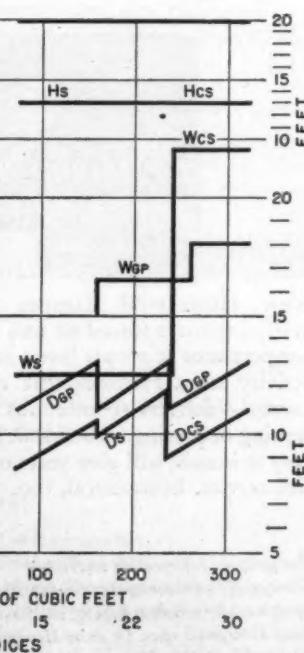


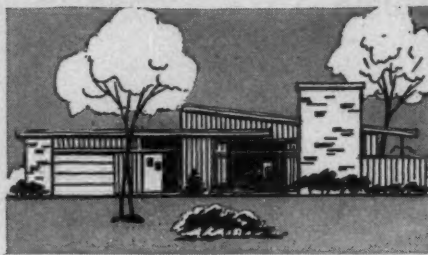
Figure 3B



Any type home is obsolete



Designing ranch-type houses? New Honeywell *Packaged Zone Control* is practical if they're two-bedroom-and-up homes with over 800 square feet. Zone control *measures* comfort to exact needs of all occupants at all times.

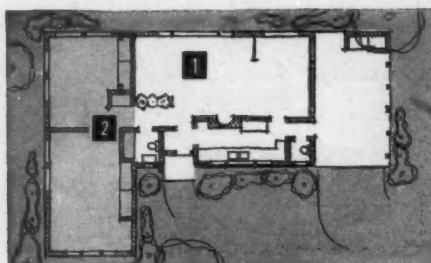


Designing contemporary homes? If you are, specify Honeywell Zone Control comfort. Large glass areas and open planning can cause excessive temperature variations, easily changed to *whole-house* comfort by the Honeywell system.

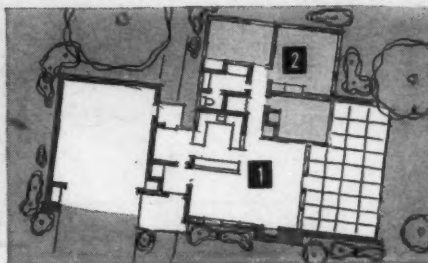


Designing split-levels? Bring ideal comfort to various activity zones with the new Honeywell Zone Control Package. Honeywell's use of standard components makes zoning easier, more effective, more economical than ever.

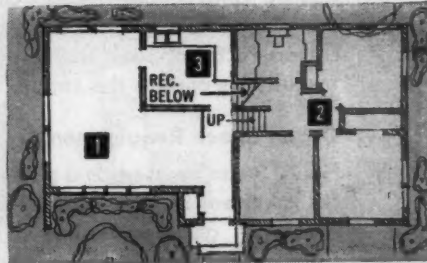
without the comfort of new



Zoned ranch house is *completely* comfortable with Honeywell Zone Control separating living-dining area (1) from sleeping area (2). Bedrooms are kept at lower temperatures ideal for comfortable sleeping.

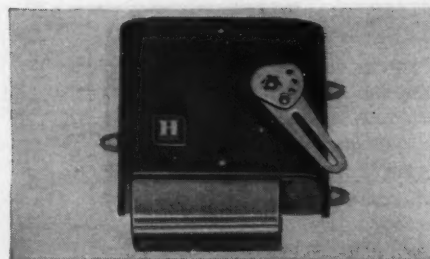


Contemporary house plan utilizes separate thermostats in living-dining zone (1) and sleeping zone (2) which create distinct comfort areas. Thermostat in Zone 1 compensates automatically for large glass areas and heat from fireplace.

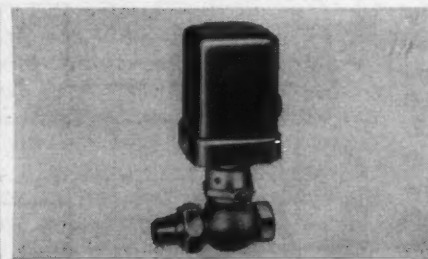


Split-level house has Honeywell Zone Control in (1) living-dining, (2) sleeping, and (3) recreation areas. Occupants receive exact comfort required, even in areas of intermittent use. Three thermostats are employed.

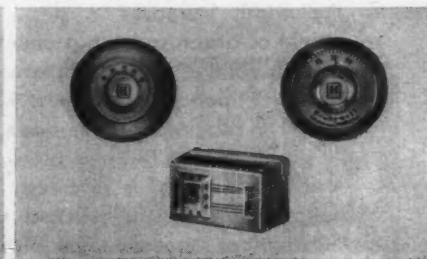
Honeywell Packaged Zone Control



New Honeywell damper actuator vastly improves forced air zoning—gives temperatures at proper levels in different activity areas. Provides true *modulating* control—delivers continuous flow of heating or cooling on demand. Noiseless; easy to install; will give years of trouble-free service. Economical, too.



Quiet, motorized valve makes it easy to zone forced hot water heating systems. Valve opens on demand from zone thermostat and at the same time starts the circulator, thus delivering heat to the zone. Versatile—works equally well on two-pipe steam systems. A low-voltage control. Easy to wire and install.



Three outstanding thermostat systems complete the package: (1) Electronic Moduflow, right, for major occupancy zone; (2) Clock Thermostat, center, in sleeping areas automatically lowers temperatures at night, raises them at morning; (3) Honeywell Round, left, perfect for zones of intermittent occupancy.

For complete information on the new Honeywell forced air zone control system, or on equipment for wet heat zoning, call your local Honeywell office. Or write Honeywell, Dept. AR-12-133, Minneapolis 8, Minn.

MINNEAPOLIS
Honeywell
Zone Control



For heating and cooling

FLUORESCENT LIGHTING FOR LARGE AREAS—1: Guide to Fixture Selection

By K. Steve Rasiej, Syska & Hennessy, Inc., Consulting Engineers

The purpose of these sheets is to present an easy-to-use guide for appraising the relative practical merits of various fluorescent lighting systems as used in office, commercial and institutional buildings. Data given in the tables is predicated upon over-all performance and cost. Fixture appearance is not considered. Since the various systems are rated for a particular set of room conditions, the figures serve only as bases of comparison, and not as final designs for many conditions.

Following criteria were selected

to indicate the performance of each system:

Average (maintained) foot-candles (ft-c)—Gives the amount of light obtained at the desk level

Watts per square foot—Gives the amount of electrical energy consumed

Foot-candles per watt per square foot—Indicates efficiency of the system in terms of energy used

Installation cost—Indicates relative costs of various systems. Installation cost includes cost of fixtures and wiring beginning with first outlet of

the circuits in any particular layout. Installation cost of system A in continuous 9 ft spacing is taken to be 1.00

Visual Comfort Index (VCI)—The percentage of persons who will find the direct view of the lighting system visually comfortable, assuming that observers are in the least favorable position (center rear of space) and are occupied at visual tasks of some severity. Figures are based on the published data by Lamp Division of General Electric Co.

EXAMPLE ROOM

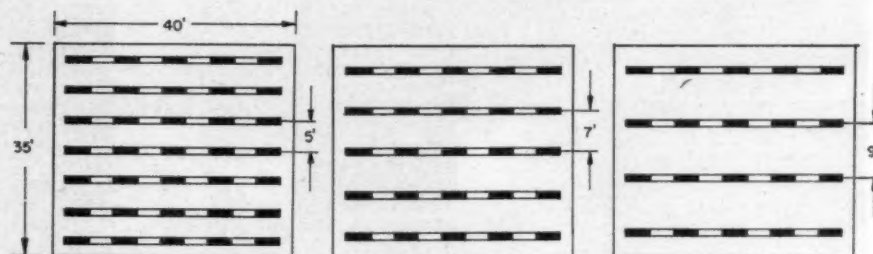
Ceiling Height—9 ft

Ceiling/Wall Reflectance—75/50 per cent

Maintenance Factor—70 per cent

Lamps—Warm White

Fixture Spacing—5, 7 and 9 ft, continuous and individual spacing.



A—2-lamp recessed troffer, with egg-crate louver for 40° x 40° shielding



B—same as type A except with 3 lamps



C—2-lamp recessed troffer, with Albalite glass diffuser



D—same as type C except with 3 lamps



E—2-lamp recessed troffer, with low brightness glass diffuser



F—same as type E except with 3 lamps



G—2-lamp recessed troffer, 2 ft x 4 ft, with egg-crate louver for 35° x 35° shielding



H—same as type G except with 3 lamps



I—two type M fixtures side by side, forming 2 ft x 4 ft, 2-lamp recessed double parabolic troffer



J—suspended, 2-lamp, direct-indirect unit with metal sides and metal louvers for 40° x 40° shielding



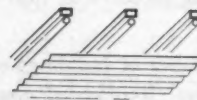
K—suspended, 2-lamp, direct-indirect unit with metal sides and metal louvers for 35° x 25° shielding



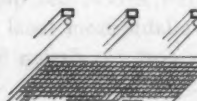
L—suspended, 2-lamp, direct-indirect unit with ribbed glass sides and metal egg-crate louvers for 40° x 40° shielding



M—1-lamp recessed deep parabolic troffer with aluminum cross louvers 6 in. o.c. This type of fixture is suitable for installation at close spacing only and is so considered in the chart



N—luminous ceiling of diffusing corrugated plastic



O—louvered ceiling with 2 in. x 2 in. x 2 in. cells, white steel louver

NOTES

1. All fixtures are 1 ft x 4 ft except where indicated.
2. For types J, K and L fixtures: assumed ceiling height—9 ft 6 in. fixture mounting height, 8 ft 0 in. For types N and O: assumed ceiling height—9 ft 0 in. Distance lamp to ceiling is 16 in. for 2 ft spacing, 24 in. for 3 ft spacing and 32 in. for 4 ft spacing.

AMERICA'S TALLEST REINFORCED CONCRETE BUILDINGS...

COST COMPARISON PROVES THEIR ECONOMY



On the lake front of Chicago's near north side, the nation's tallest flat-slab reinforced concrete buildings are rapidly rising. They make up a \$25,000,000 project of six 28 and 29-story apartment buildings—luxury "glass house" type—designed by the internationally renowned Ludwig Mies van der Rohe.

Mr. Frank J. Kornacker, structural engineer, said, "Reinforced concrete was chosen for economy reasons after a cost comparison with other structural methods. Another deciding factor was that materials were readily available."

Each year, an increasing number of buildings of all types are going to reinforced concrete construction. Reinforced concrete produces a rigid structure, highly resistant to wind, shock, and quake. Furthermore, materials and labor are readily available from local sources. On your next job, design for durability at low cost . . . design for reinforced concrete.



Compare...

**YOU'LL SAVE WITH
REINFORCED CONCRETE**

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CONCRETE REINFORCING STEEL INSTITUTE

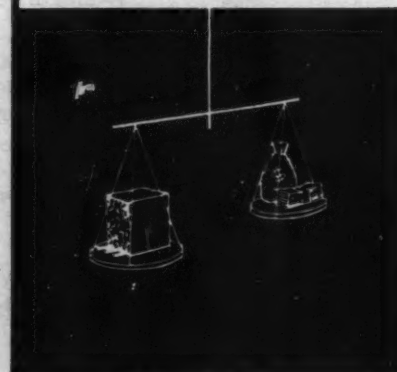
**"900 Esplanade
Apartments" and
"Commonwealth
Promenade Apartments"
Chicago, Illinois**

Ludwig Mies van der Rohe
(Friedman, Alschuler &
Sincere, Associated)
Architect

Frank J. Kornacker
Structural Engineer

Herbert S. Greenwald
General Contractor

Sumner Sollitt Company
Subcontractor



FLUORESCENT LIGHTING FOR LARGE AREAS—2: Guide to Fixture Selection

By K. Steve Rasiej, Syska & Hennessy, Inc., Consulting Engineers

		5 FT						7 FT						9 FT									
		FIXTURE TYPE		AVERAGE FT-C WATTS/SQ FT		FT-C/WATTS/SQ FT		INSTALL COST		LENGTHWISE		CROSSWISE		AVERAGE FT-C WATTS/SQ FT		FT-C/WATTS/SQ FT		INSTALL COST		LENGTHWISE		CROSSWISE	
INDIVIDUAL FIXTURES RECESSED	A	43	2.5	17.1	1.23	70	68	31	1.8	17.1	.88	78	76	25	1.4	17.1	.63	82	80				
	B	62	3.8	16.5	1.60	47	45	44	2.7	16.5	1.09	52	50	35	2.1	16.5	.92	55	53				
	C	46	2.5	18.1	1.31	75	75	33	1.8	18.1	.94	81	81	26	1.4	18.1	.75	85	85				
	D	62	3.8	16.5	1.64	47	47	44	2.7	16.5	1.17	52	52	35	2.1	16.5	.94	55	55				
	E	48	2.5	19.1	1.51	81	83	34	1.8	19.1	1.08	84	86	27	1.4	19.1	.86	86	88				
	F	64	3.8	17.1	1.85	64	66	46	2.7	17.1	1.32	70	72	37	2.1	17.1	1.05	72	74				
	G	51	2.5	20.2	1.67	80	85	36	1.8	20.2	1.20	84	89	29	1.4	20.2	.95	87	91				
	H	72	3.8	19.4	2.00	67	68	52	2.7	19.4	1.42	71	72	41	2.1	19.4	1.14	74	76				
	I	50	2.5	19.8	2.64	82	97	35	1.8	19.8	1.86	84	97	28	1.4	19.8	1.51	86	97				
SUSPENDED	J	45	2.5	17.8	.92	97	97	32	1.8	17.8	.66	97	97	26	1.4	17.8	.54	97	97				
	K	46	2.5	18.2	.88	91	82	33	1.8	18.2	.63	92	83	27	1.4	18.2	.51	93	94				
	L	45	2.5	17.8	1.40	94	84	32	1.8	17.8	1.01	96	86	26	1.4	17.8	.82	97	87				
CONTINUOUS FIXTURE ROWS RECESSED	A	77	4.5	17.1	1.75	53	51	55	3.2	17.1	1.25	65	63	45	2.6	17.1	1.00	67	65				
	B	111	6.7	16.5	2.32	35	33	79	4.8	16.5	1.61	43	41	63	3.9	16.5	1.33	45	43				
	C	82	4.5	18.1	1.87	57	57	59	3.2	18.1	1.34	68	68	47	2.6	18.1	1.07	72	72				
	D	111	6.7	16.5	2.38	35	35	79	4.8	16.5	1.70	43	43	63	3.9	16.5	1.37	45	45				
	E	86	4.5	19.1	2.10	75	77	61	3.2	19.1	1.57	78	81	49	2.6	19.1	1.26	81	83				
	F	115	6.7	17.1	2.70	54	55	82	4.8	17.1	1.93	58	60	66	3.9	17.1	1.55	64	66				
	G	91	4.5	20.2	2.42	64	69	65	3.2	20.2	1.73	75	80	52	2.6	20.2	1.39	76	81				
	H	130	6.7	19.4	2.94	55	58	93	4.8	19.4	2.10	63	65	74	3.9	19.4	1.68	65	67				
	I	89	4.5	19.8	3.85	74	96	64	3.2	19.8	2.78	80	97	51	2.6	19.8	2.21	82	97				
SUSPENDED	J	80	4.5	17.8	1.44	94	94	57	3.2	17.8	1.03	96	96	46	2.6	17.8	.82	97	97				
	K	82	4.5	18.2	1.37	85	76	58	3.2	18.2	.98	88	79	47	2.6	18.2	.78	90	81				
	L	80	4.5	17.8	2.20	87	77	57	3.2	17.8	1.57	91	81	46	2.6	17.8	1.25	93	83				
RECESSED		3 FT						4 FT						5 FT									
	M	78	3.8	20.4	33.5	89	96	58	2.9	20.4	2.50	90	97	45	2.2	20.4	1.96	91	97				
CONTINUOUS LAMPS LUMINOUS CEILINGS		2 FT						3 FT						4 FT									
	N	96	6.1	15.7	3.05	69	69	68	4.3	15.7	2.42	83	83	51	3.2	15.7	2.10	90	90				
	O	75	6.1	12.3	4.51	97	97	53	4.3	12.3	3.88	97	97	40	3.2	12.3	3.57	97	97				



Pressman checks a final copy in controlled humidity of the press room.

Men and machines bring news to you

American Blower plays vital role in air conditioning one of the world's largest newspaper plants

At the new building of The Philadelphia Evening and Sunday Bulletin, gigantic newspaper printing presses reel off 210,000 newspapers an hour . . . in an atmosphere controlled by American Blower equipment.

A relatively high humidity in the press room is a must — for the speeding miles of paper could tear if too dry, and cause a delay. This added moisture, precisely controlled, also improves printing. The stereotype section, however — where lead printing plates are cast — calls for different treatment. Here, American Blower ventilating equipment works 'round the clock to rid the area of heat

generated by the metal pots.

Considered by many as "the mechanical showcase of modern journalism," the new Bulletin Building requires varied air conditions throughout its over 500,000 sq. ft. area. For cooling, heating, ventilating, air filtering, humidifying, and dehumidifying — both men and machines depend on 78 American Blower units in the race of getting news to readers faster.

You can count on American Blower, too . . . whether your air-conditioning needs are large or small, normal or unusual. Just phone our representative near you.

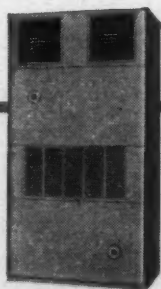


New Bulletin Building. Architects: George Howe & Robert Montgomery Brown. Mechanical Contractors: Riggs Distler & Company, Inc. Special Consultants: William Ginsberg Associates. Consulting Engineers: A. Ernest D'Ambly; Pennell & Wiltberger; Keast & Hood.



In the section where printing plates are made, there is 'round-the-clock ventilation . . . to exhaust heat generated by the melting and casting of lead.

faster—thanks to conditioned air



In addition to equipment for complete central systems—American Blower offers packaged air conditioners for offices, stores, industrial plants, and similar applications.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

Division of AMERICAN-Standard

AMERICAN  BLOWER

Air-conditioning equipment for every business

(Continued from page 200)

Operation Deepfreeze (continued)

materials and equipment, and equipment for constructing a snow-compacted runway.

January 1956 — Equipment and supplies will be landed at Little America and at McMurdo Sound, and construction will be started on the first base and the air operations facility.

February 1956 — Supply ships will leave before they become ice-locked. A wintering-over party of 58 men and 7 officers will remain to complete the runway and operate the base camp.

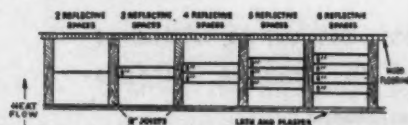
October 1956 — Overland transportation (700 miles) of equipment, personnel and supplies will commence to Marie Byrd Land. Air Force planes will pick up materials and an erection crew and fly them 500 miles to the South Pole. All but men and sensitive equipment, which will be landed by ski plane, will be dropped there. These two satellite bases will each sleep 15 men.

January 1957 — Scientists will be transported to the three bases with supplies for 2 years in case resupply is not possible in January, 1958.

January 1959 — Personnel and equipment will be evacuated.

BuDocks was responsible for all design in connection with materials and techniques for Operation Deepfreeze. Physical drawings were done by Thomas B. Bourne Associates, Inc., Washington.

The Thermal Insulating Value of Air Spaces is the title of Housing Research Paper No. 32 published by HHFA as the result of research on heat loss from buildings in winter and heat inflow in summer by H. E. Robinson and F. J. Powlitch of the National Bureau of Standards under the direction of R. S. Dill, chief of its Heating and Air Conditioning Section.



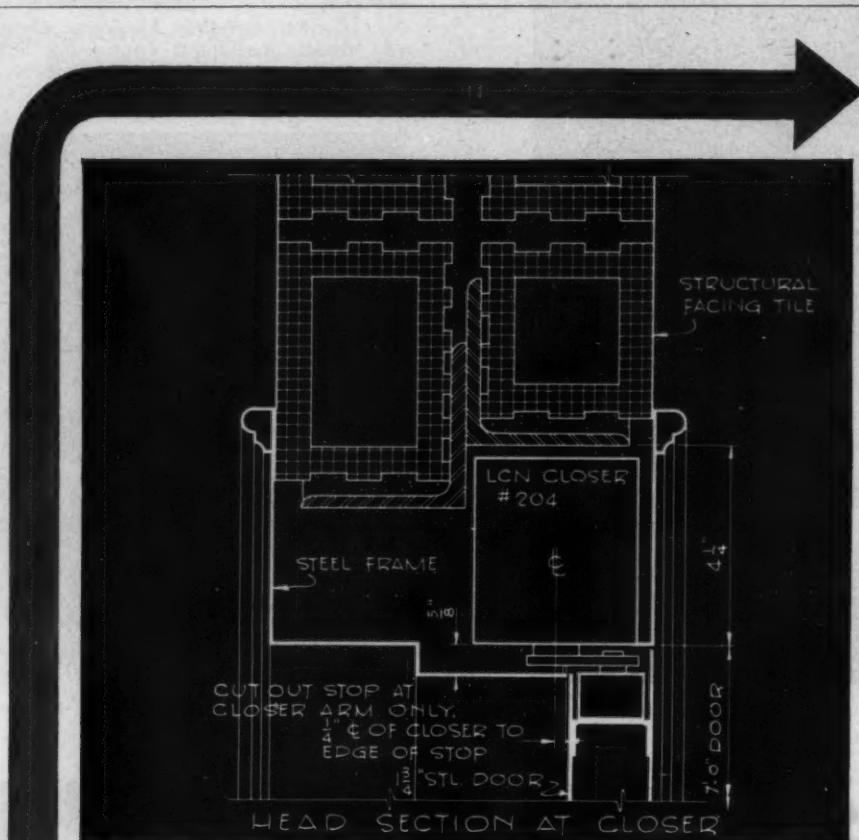
Alexander Schwartz, president of Infra Insulation Inc. has released an interpretive review of the findings, together with an illustrative chart (above) showing a group of 8-in. ceiling joint spaces with ordinary fixed boundary temperatures. Says Mr. Schwartz, "The more the space is divided, the greater is the division of the original spread of temperatures; and so each space

carries a smaller burden of temperature difference. This means a decrease in convection and a corresponding significant increase in the insulating value of the space. This holds true down to space depths of about 1 in., below which the diminution of insulating value due to increase in conduction because of lessening the depth, becomes the controlling factor."

The HHFA booklet is on sale by the government, but can also be obtained from Infra Insulation Inc., Dept. HR, 525 Broadway, New York, N. Y.

Hardwood Table Tops that are burn-resistant and alcohol- and acid-proof have been developed as the result of over two years of research sponsored by the Fine Hardwoods Association at the Timber Engineering Company, research laboratory affiliate of the National Lumber Manufacturers Association. The resistant surfaces are made possible by laminating a layer of aluminum foil under the surface of the hardwood and finishing with a variety of approved finishes.

(Continued on page 218)



CONSTRUCTION DETAILS


for LCN Overhead Concealed Door Closer Shown on Opposite Page

The LCN Series 200 Closer's Main Points:

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm disappears into door stop on closing
3. Hydraulic back-check prevents door's being thrown open violently to damage walls, furniture, door, hinges, etc. Door may open 180°, jamb permitting
4. Hold-open (optional) set at any one of following points: 85°, 90°, 100° or 110°
5. Easy to regulate without removing any part
6. Used with either wood or metal doors and frames.

*Complete Catalog on Request—No Obligation
or See Sweet's 1955, Sec. 17e/L*

LCN CLOSERS, INC., PRINCETON, ILLINOIS



Soren Pilafian and Frank Montana, Architects

MODERN DOOR CONTROL BY *LCN* - CLOSERS CONCEALED IN HEAD FRAME

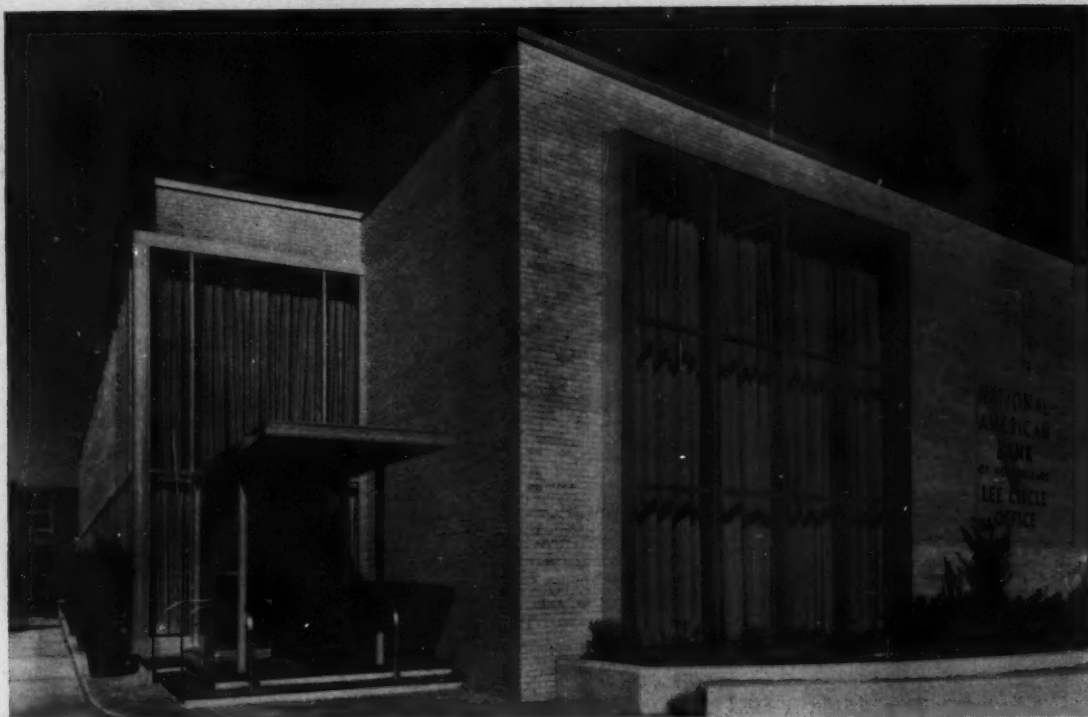
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LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

PITTSBURGH GLASS

played a dominant role
in creating this outstanding
bank building in New Orleans



In New Orleans, Louisiana, the Lee Circle Office of the National American Bank is an impressive example of what good architectural planning can do to offer every possible customer service, including the advantage of an uncongested site away from the crowded downtown area. Pittsburgh's Solex® Heat-Absorbing Plate Glass was utilized throughout to keep the interior cool and comfortable. The glass is set in Pittco® Deluxe Metal. Doors are of Herculite® Tempered Plate Glass, operated by Pittcomatic® Hinges—"the nation's finest automatic door openers." Architects: Goldstein, Parham & Labouisse, New Orleans, Louisiana.

The Robert E. Lee Room's entrance is equipped with Herculite Tempered Plate Glass Doors and sidelights, set in a special Pittco Metal frame. In addition, two drive-in windows are provided on one side of the building, equipped with the latest electronic devices for talking with the teller. These windows are glazed with Pittsburgh's Multiplate® Glass.

Design it better with
PITTSBURGH GLASS

ate
vo
he
ed

This glass wall, 110 feet long and 20 feet high, and extending the entire length of the building, is glazed with Solex Heat-Absorbing Plate Glass. Since this glass wall forms the architectural focal point

of the styling of this building, the materials for the façade and other elevations were selected to harmonize with the greenish-tint of the glass.

Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 13e, 16d, 16a, 7a.



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

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 from the heaviest lead-lined x-ray room door
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CHICAGO, ILL...... Wm. A. Klaff, 210 Circle Ave., Forest Park, Ill.
DOWNERS GROVE, ILL...... H. G. Neise, 5616 Aubrey Terrace
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PHILADELPHIA, PA...... G. Norris Williams, 211 Greenwood Ave., Wyncote, Pa.
DALLAS, TEXAS..... R. M. Schneider, 4633 Rockaway Drive
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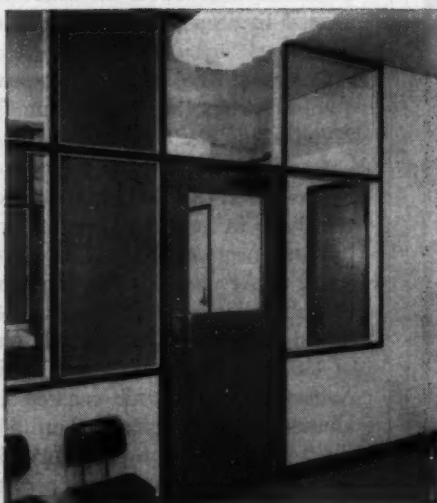
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9100 w. belmont avenue • franklin park, ill.



The Ceko Door-Frame-Hardware-Partition package assures a handsome but inexpensive entrance. You can coordinate exterior and interior door installations.

Why specify the average when quality steel doors cost no more?



Three-way savings are possible with these engineered Ceko Hollow-Metal Doors, Frames, Hardware items and "Borrowed Lights"... savings in product, installation and maintenance costs. Note how "Borrowed Lights" and Transoms are integrated with the Door Frames.

Everything considered . . . product, installation and maintenance . . . Ceko Bonderized Hollow-Metal Doors are as economical as wood doors. In specifying any building product you must consider three costs—product cost, installation cost and maintenance cost. Saving on any of these can be significant, provided there is no sacrifice in design or functional performance. All this Ceko took into consideration in developing the Ceko Door-Frame-Hardware-Partition package. Machine production cuts product cost, making quality metal doors available within any budget. Next, there are savings in installation time because Ceko Hollow-Metal Doors and Frames are factory-mortised for attaching of hardware. And since Ceko Doors and Frames are bonderized for paint adherence, the finish wears longer, thus saving on maintenance. But equally important is the quality of Ceko Doors and Frames. Better engineering means a better operating door—silent... safe... rugged... non-combustible. So, if you want quality doors at no extra cost, specify Ceko's Door-Frame-Hardware-Partition package. You can be sure you will get the very finest products of their kind.

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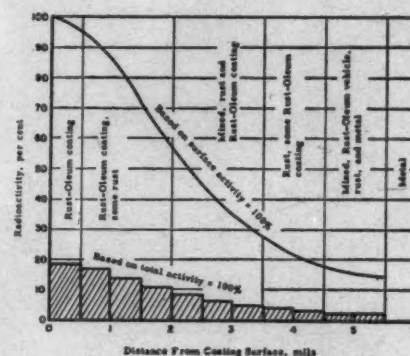


In construction products Ceko Engineering makes the big difference

(Continued from page 212)

**CUT
APPLICATION
COSTS**
with

**GENUINE
DOUGLAS FIR PLYWOOD
PLYSCORD®
INTERIOR TYPE GRADE C-D
SHEATHING**



The curve above shows the results of the testing, with 100 per cent radioactivity recorded at the surface of coating and about 15 per cent still being recorded at bare metal. These tests showed that the fish oil vehicle penetrated through rust even where it had formed in deep pits or pockets in the metal.

Copies of the BMI report may be obtained from the Rust-Oleum Corp., 2799 Oakton St., Evanston, Ill.

Solar-powered Telephone System, the first in practical operation, was initiated near Americus, Ga., 135 miles south of Atlanta this fall. The energy-collecting device is a Bell solar battery, first demonstrated last year. It consists of 432 silicon cells, cushioned in oil and covered by glass, all encased in an aluminum housing less than a yard square (see photograph right). Silicon cells convert as much as 11 per cent of the energy they receive from the sun directly into electrical power, a performance said to be comparable to that of the best gasoline and steam engines.



Bell Telephone Laboratories engineers say that it is 15 times more efficient than the best previous solar energy converters.

The rural area near Americus is being used as a test center because current thinking is that this type of system will be economical for communication uses where commercial power is unavailable and small amounts of power are sufficient. The system uses transistors for the shorter distance lines instead of the vacuum tubes which have been used for years for multifrequency transmission on longer distance calls. The solar battery has no moving parts or corrosive chemicals, and therefore should last indefinitely. It will continue to charge, even in poor light, but at lower power. Excess current not needed for immediate telephone use feeds into a storage battery which provides power at night and over periods of bad weather.

Filtering Building Board Developed.

An inexpensive, wood-fiber building board which filters poison gas, disease-laden particles and radioactive fallout of atomic explosions has been developed by the U. S. Forest Products Laboratory under contract with the Army Chemical Corps. Called "diffusion board," the new material looks much like ordinary building fiberboards widely used in house construction. Secret chemicals in it screen out deadly gases and particles but allow life-sustaining oxygen to pass through. Likewise, carbon dioxide gas given off in breathing can pass out through it, along with respiratory vapors. Pilot-scale production tests at two plants have shown that the fiberboard can be manufactured with much the same equipment used to make ordinary building fiberboards. Any species of wood can be pulped to make it. The product was developed during three years of research by Drs. Alfred J. Stamm and Harold Tarkow, research scientists at Forest Products Laboratory.

(Continued on page 223)

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THE SAME
WITHOUT THE
NAME

INSIST
ON THIS
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TRADEMARK

D-FPA
TESTED
QUALITY

GENUINE
DOUGLAS FIR PLYWOOD
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SHEATHING

● THIS distinctive PLYSCORD stamp on the panel identifies genuine D-FPA fir plywood sheathing — quality-tested by D-FPA to protect the buyer and assure performance. Write for new PLYSCORD calculator — handy slide rule giving recommended nailing procedures, thicknesses, etc. FREE from Douglas Fir Plywood Association, Tacoma 2, Wash.



INSIST on D-FPA grademarked fir plywood! EXT-D-FPA and PLYSHIELD for outdoor use... PLYPANEL for paneling, built-ins... PLYSCORD for sheathing... PLYBASE for underlayment... PLYFORM for concrete form work. Other grades for other uses

Trane Fans and Coils have more features that give you

Greater efficiency... compactness in your built-up

Handle bigger jobs with more compact equipment... get greater reliability, too!

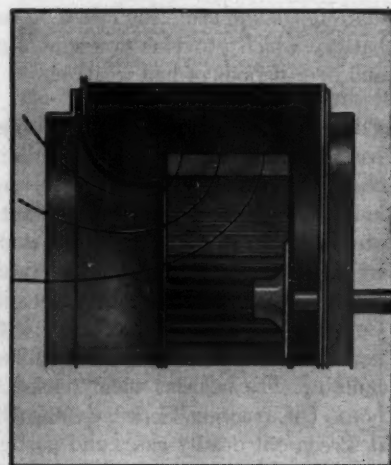
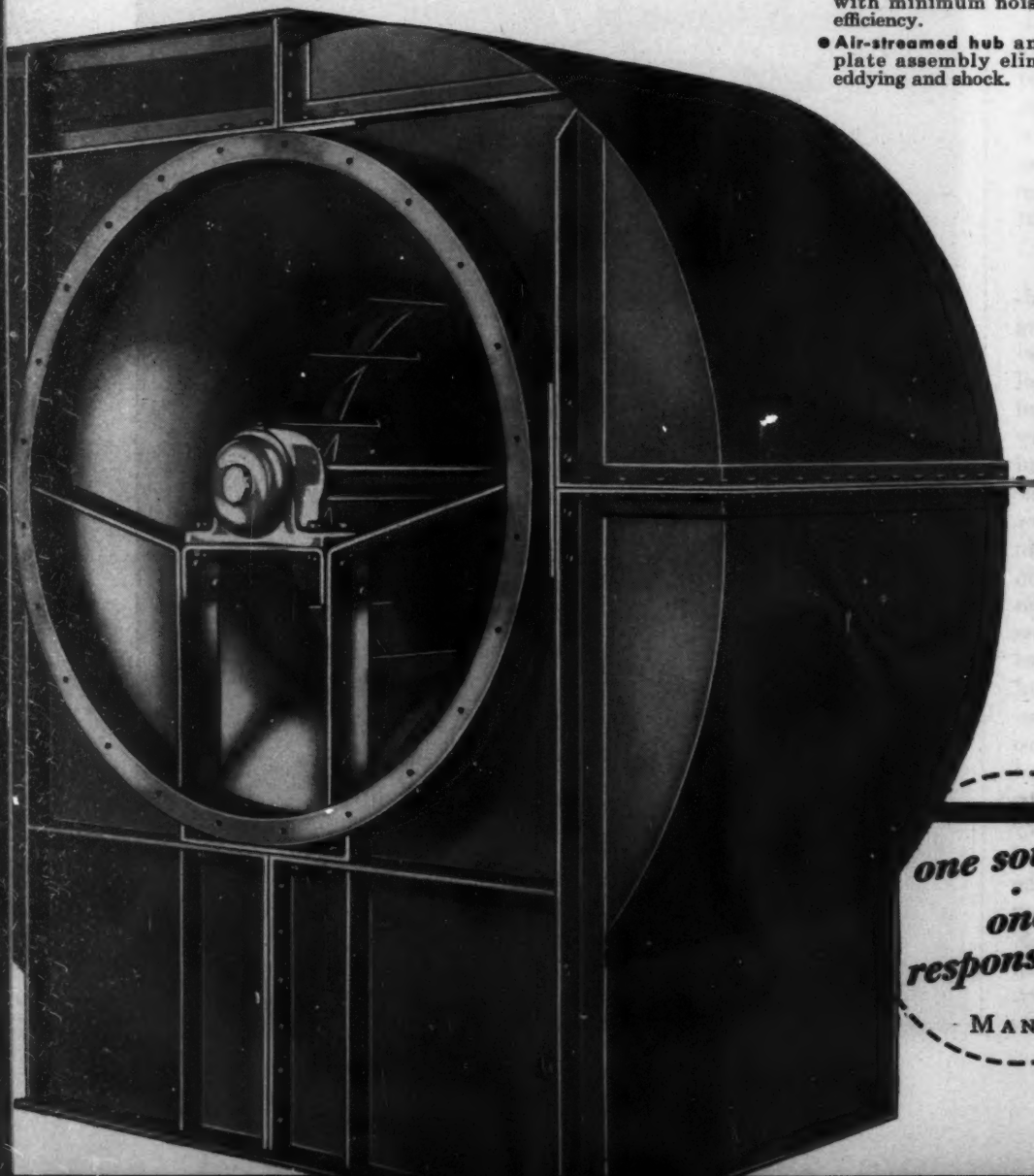
The efficiency features of TRANE Fans and Coils can make a *big* difference in your built-up systems! For example, the TRANE Delta-Flo Fin and mechanical

fin-to-tube bond not only give you a more *efficient* coil, but actually form a stronger, more rigid unit than heretofore possible. And even that is only part of the story.

TRANE Centrifugal Fans available in BI types in all sizes through 109", FC types through 89". Utility fans 4" through 30". Propeller fans 10" through 48".

Compare Trane with any other fans

- True non-overloading power characteristics, moderate rotational speeds.
- Special housing and outlet shapes handle large volumes with minimum noise, high efficiency.
- Air-streamed hub and back plate assembly eliminates eddying and shock.
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- Rugged housing of lock-seam construction (small fans), welded construction (large fans) resists damage.
- Proved performance backed by over a quarter of a century of fan building experience.



Streamlined inlet cone distributes air evenly in fan wheel without noisy turbulence. Permits fan to operate at high efficiency with low noise level.

*one source
one
responsibility*

Install

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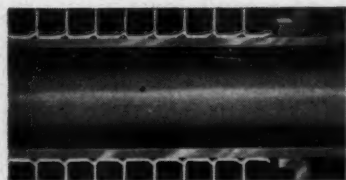
durability... systems

Every TRANE feature—from the accurately streamlined fan inlet to the exclusive kinetic orifice—has been *proved in actual application*. You know you can count on

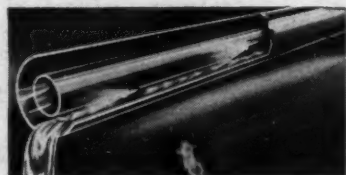
TRANE Fans and Coils for efficiency, durability and compactness *before* you order! For details see your nearest TRANE Sales Office or write TRANE, La Crosse, Wis.

Compare Trane with any other coils

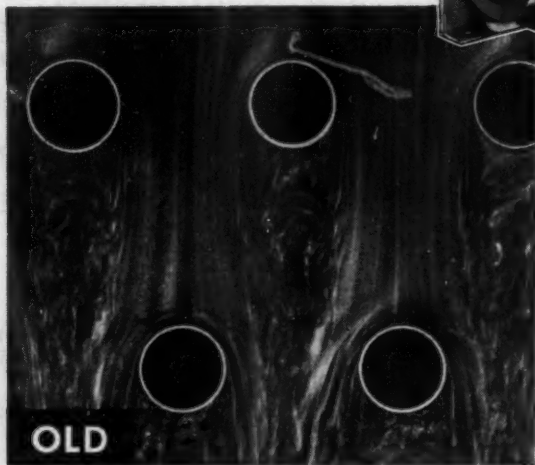
- Accurate ratings proved by over twenty-five years of field and laboratory testing.
- Exclusive dual fin contact assures high heat transfer, greater strength.
- Greater rigidity assured by the formed delta ridge of the new Delta-Flo Fin.
- Low air friction of plate type fin offers minimum air resistance.
- High coil capacity yet wide fin spacing.
- 25% more effective use of the fin surface.
- More uniform heat transfer over entire surface of the fin.



Mechanical fin-to-tube bond is as strong as though fin and tube were one. Wide, flat collar forms generous heat transfer area.

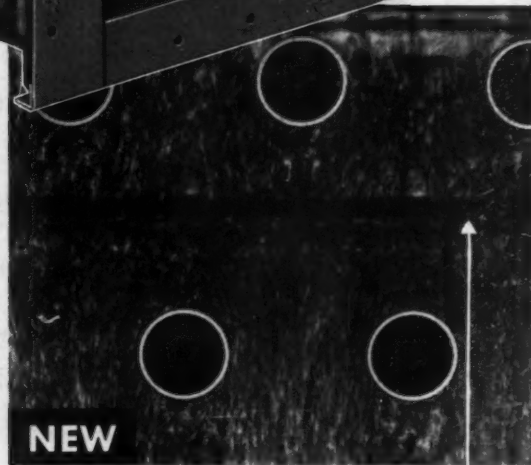


Kinetic orifice on SD coils releases steam in the direction of the condensate flow. Accelerates condensate flow, guards against freezing, provides more uniform temperature distribution on modulated control.



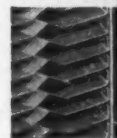
OLD

Old plate fin. With flat fin design, turbulence is concentrated behind each tube as shown by this unretouched laboratory test photo. Since turbulence is concentrated, a large part of the fin area produces little heat transfer.



NEW

New Delta-Flo Fin. Delta-shaped ridge just ahead of each row of tubes extends turbulence over *entire fin surface* for uniform heat transfer. Unretouched test photo shows how every inch of fin surface contributes to heat transfer.

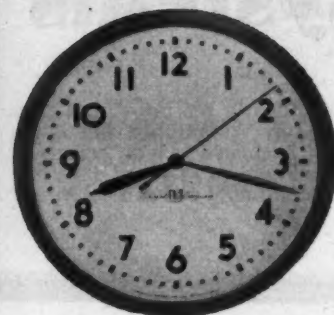
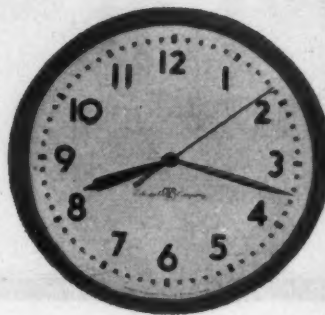


TRANE Fans and Coils *for efficient built-up systems*

OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

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**Architects,
engineers,
school administrators
ask:
"are
master
clocks
necessary?"**



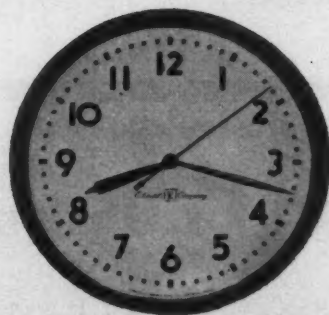
If clocks tend to coast, get out of step with each other, you need a constant source of correction. You need a master clock.

If you use the Edwards Synchronomatic Clock System, you do *not* need to rely on a master clock. Here's why: Every clock in the Edwards system is on the same circuit, receiving its power directly from the ever accurate central station. There can't be any difference between clocks while operating. There's no need for a master clock with its hourly correction.

If power fails, the Telechron motor stops instantly—the light weight rotor can't coast. When power returns all clocks start simultaneously. And here's an important advantage... the Edwards Synchronomatic control will automatically correct all clocks immediately—no matter how long the power was off. No waiting for the next hour—and sometimes several hours. You have *constant* accuracy with an Edwards Synchronomatic System.

A flick of the switch on the central control is all that's necessary to adjust for changes in time.

These are only a few of the advantages available—for more information about Edwards Clock & Program Systems write Dept. AR-12.

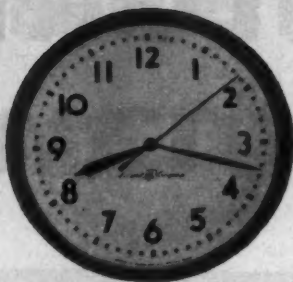


Synchronomatic Clock Systems



Company, Inc.
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EDWARDS ...is everywhere!

Wherever constant accuracy is needed, you'll find Edwards Synchronomatic Clock Systems. Here are a few of the thousands of Edwards installations in schools and hospitals around the country.

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NATIONAL INSTITUTE OF HEALTH
Bethesda, Maryland

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Storrs, Connecticut

BUFFALO VETERAN HOSPITAL
Buffalo, New York

DANIEL WEBSTER SCHOOL
Stockton, California

ATHENS GENERAL HOSPITAL
Athens, Georgia

AIR ROUNDUP

(Continued from page 219)

Building Techniques. The "K" System, a method for installing and removing forms for concrete flooring without resorting to either makeshift or time-consuming procedures, has been developed by Edward S. Klausner, a New York City professional engineer.



The method consists in hooking 2-oz cast-iron clips, about 3 in. long, over the top flanges of Jones & Loughlin Junior Beams, as shown in the photograph to the left above. Plywood is placed on the clips and serves as a ready-made form for the concrete. After the concrete has been poured and has hardened, workmen go along the underside of the flooring and knock off the exposed section of the clip, as shown in the photograph to the right above. Part of the clip remains permanently in the floor. The plywood forms drop down and can be re-used as many as 20 times. It is claimed that the system not only saves time and materials, but also gives the structure additional rigidity because the clip allows the concrete to come below the top flange of the Junior Beams.

The Consulting Engineers Association has been organized in Colorado with 30 charter members representing 23 individual firms. Eligibility requires registration, in good standing, as a professional engineer to practice in the state of Colorado.

Architectural and Building Photography is a course covering all phases of photographing both housing and commercial structures. It is offered by the New York Institute of Photography, 10 West 33rd St., New York City, and can be taken as a correspondence course if desired.

Air-conditioned Factories will soon be as commonplace as air-conditioned restaurants, predicted G. K. Iwashita, general manager of GE's commercial and industrial air conditioning department.



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For better drawings, sharper prints and greater value—use CASTELL, the drawing pencil with the master degrees.

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CRANE FIXTURES AT THE FABULOUS



Situated on 14 acres, once the site of the renowned Firestone Estate, Hotel Fontainebleau is called the world's largest and finest resort hotel. It has 565 guest rooms, 265 cabanas, two swimming pools. Architect: Morris Lapidus, Miami Beach and New York. General Contractor: Taylor Construction Co., Miami Beach. Mechanical Contractor: Markowitz Bros., Inc., Miami.



Smaller baths feature Crane Marcia lavatory set into counter-top, Crane Troy water closet, Crane Criterion tub. Counter-top curves under mirror wall out of the picture to the right.



Solarium includes Crane Sitz Bath of Duraclay (resists thermal shock), Crane Norwich lavatory. Crane Hydrotherapeutic Shower and marble control table not illustrated.

CRANE

IN EVERY ROOM FONTAINEBLEAU

They set out to build the most fantastically luxurious hotel in the world—and they did. The fabulous *Fontainebleau* in Miami Beach.

And the Fontainebleau has Crane—the preferred plumbing fixtures throughout.

Because only Crane fixtures could come up to the standards of luxury the Fontainebleau's architect set . . . in color, in styling and in reputation for perfection.

Whether or not you are trying to set a record for luxury in the job that's on your boards right now, you will find that Crane fixtures fit into your plans perfectly, and afford your client a bonus of quality, style and maintenance-free operation you could give him no other way.

Why not check your local Crane Branch or Crane Wholesaler before you start writing your specifications?



Deluxe bathrooms feature Crane Drexel lavatory with Temple Trim, Crane Troy water closet, 5'6" Criterion tub. Many of the bathrooms, like the one above, are equipped with a Crane Bidet. Bathrooms are in yellow, blue and pink.

CRANE CO.

General Offices: 836 S. Michigan Ave., Chicago 5, Ill.
VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

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ITS SECOND CENTURY
OF QUALITY**

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cut garage costs... add sales appeal

with NEW
RŌ-WAY
**TORSION SPRING
DOORS**

Now you can add the sales appeal of *genuine Ro-Way Overhead Type Doors*—and cut costs on every installation. For here's the newest addition to the Ro-Way line of residential garage doors—designed especially for low-cost homes, project developments, new and modernized garages. They're quality doors in every respect, yet modestly priced to fit any building budget. See for yourself:

LOW HEADROOM. Saves space, cuts cost. Three models require only 6"—three models only 12 $\frac{1}{8}$ ".

TORSION SPRINGS. For smooth, quiet, easy operation. Single spring on 1-car doors; twin springs on 2-car doors. Mounted on full length revolving shaft.

PLASTIC ROLLERS. Tough, quiet, long-lasting. Standard equipment on 1-car doors, optional on 2-car doors. Ball bearing steel rollers standard on 2-car doors.

SMART STYLING. 4-section, 3-panel styling on 1-car doors; 4-section, 4-panel styling on 2-car doors. New streamlined contour on panel and glass mold.

QUALITY PANELS. $\frac{1}{4}$ " fir plywood on 1 $\frac{3}{8}$ "

- Only a GARAGE offers:
- COMPLETE PROTECTION
 - FINISHED APPEARANCE
 - EXTRA STORAGE SPACE
 - EXTRA ROOM

thick doors; $\frac{3}{8}$ " Dorlux (Masonite Presdwood) panels on 1" thick doors.

LOW COST INSTALLATION. Simplicity of design speeds up installation time, thus reducing installation cost.

RO-WAY CRAFTSMANSHIP. Same fine workmanship as on all Ro-Way doors. Features include Taper-Tite tracks and Seal-A-Matic hinges for weather-tight closure; Power-Metered torsion springs; all hardware both Parkerized and painted for maximum rust resistance.

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or write us direct—for full details.

No obligation, of course.

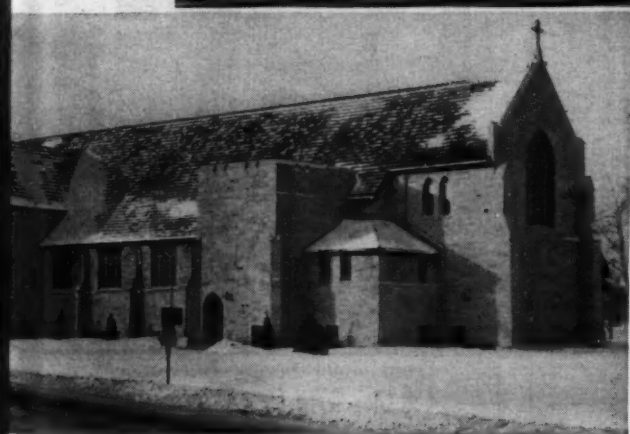
ROWE MANUFACTURING COMPANY • 1249 Holton St., Galesburg, Illinois

there's a Ro-Way for every Doorway

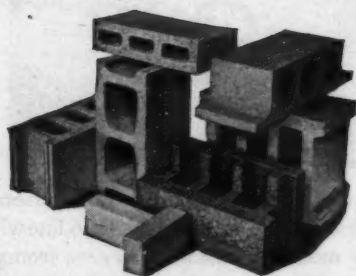


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installation service. See your
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**Lightweight Vibrapac Block
Adds Dignity and Beauty**



Choose from a Wide Variety of Structural Shapes and Sizes



Modular dimensioning of all standard VIBRAPAC Block permits precision construction . . . "makes everything fit" . . . saves time and money on installation of door and window units or other standard fixtures and equipment.

Lightweight VIBRAPAC Block for interiors offers unusual opportunities for creative beauty in architecture. You can plan a pleasing variety of distinctive patterns from standard VIBRAPAC Block. You can specify various color pigments to be added to the concrete mix for walls of dignity and beauty. The decorative beauty of Lightweight Vibrapac Block, with its many textures, styles and colors, lends an atmosphere of simple dignity to any type of construction.

While attaining these pleasing effects with VIBRAPAC Block, you also gain economies in initial cost and future maintenance. You by-pass costly wall finishing and decorating. You attain ideal architectural harmony through consistency of exterior and interior VIBRAPAC concrete masonry.

Soffit Filler Block floors and roofs add long-term structural security, safety and beauty. In addition, complete VIBRAPAC Block construction means firesafety, self-insulated walls, floors, ceilings, roofs; sound-deadened walls and floors; permanent protection from termites, dry-rot, rodents, damp-rot; storm stability, and long life. Ask the VIBRAPAC Concrete Block Plant nearest you for literature and helpful data; or write directly to BESSER COMPANY, Box 173, Alpena, Michigan, U. S. A.



A 8079-1PB-R

World's Largest Manufacturer of Concrete Block Machinery



Judges of 1955 **SIGNIFICANT PLANT AWARDS** say:

"Quite a roof! . . . No painting involved either inside or out"

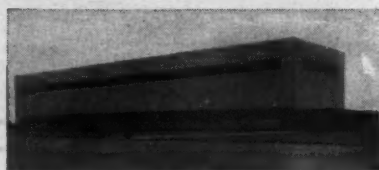
Among the 1955 winners of **FACTORY MANAGEMENT AND MAINTENANCE's Significant Plant Awards** is Sunstrand Machine Tool Co. of Belvidere, Ill. This modern plant received a special award going to "plants that are outstanding in some one respect, or in which there is an unusual feature of broad significance."

Sunstrand is cited for its installation of Ingersoll Roof Deck. Here are some of the words used by **FACTORY** to describe the decking:

"Quite a Roof! . . . This construction provides high rigidity and strength with 8-ft. purlin spacing. This despite the fact that the panels have full freedom for expansion and contraction . . . high reflective property of aluminum cuts summer heat. No painting involved either inside or out."

The Ingersoll Roof Deck used in the new Sunstrand plant is a system of full-floating panels that simply clip to galvanized steel sub-purlins which are precision spaced and welded to the building purlins.

No field or maintenance painting is necessary . . . erection is fast and easy. The permanently bright surface of the panels improves plant lighting.



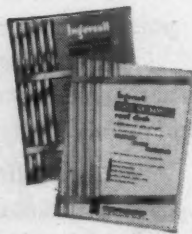
The plant completed. Its award-winning Ingersoll Roof Deck reduces maintenance

Available in aluminum and porcelain enamel

Ingersoll Roof Deck is available in either aluminum or porcelain enamel. The latter offers all the advantages described above . . . plus protection where corrosion or excessive moisture is a problem . . . or where the special gleaming look of double coats of porcelain enamel is an advantage.

Write today!

New Ingersoll Roof Deck may be just right for your next job. Illustrated folders on both aluminum and porcelain enamel types are now available to give full details of this award-winning new system!



Ingersoll
5-1-101 **ROOF DECK**

REFLECTAL CORPORATION

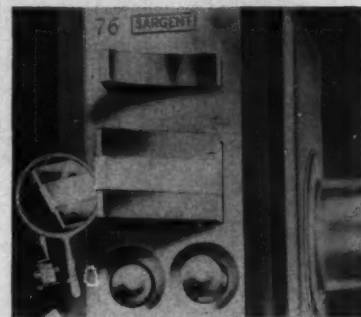
A subsidiary of Borg-Warner Corp.
310 S. Michigan Ave., Suite 2861
Chicago 4, Ill.



A-E PRODUCTS

(Continued from page 201)

Porcelain-on-Aluminum Tile that can be "struck, dropped and otherwise abused without danger of fracturing, cracking or crazing" is being produced by *Vikon*. The lightweight tiles are composed of aluminum to which is bonded at 1000 F a mixture of glass frit, pigment and titanium to form a ceramic product. The tiles, which can be cut or bent to fit, will not support combustion. The manufacturer claims that they are unaffected by cleansing agents, wipe clean with ease, retain original luster after exposure to most acids and alkalis, rough treatment and hard usage. *Vikon Tile Corp., Washington, N. J.*



Nylon Latch Bolt provides easy, quiet closing and longer wear. The self-lubricating insert protrudes on all sides of the latch bolt, preventing metal-to-metal contact between the bolt and strike. The nylon latch bolt is now standard on all Sargent 7600 Series *IntegraLocks*. *Sargent & Co., New Haven 9, Conn.*



Kitchen and Laundry Equipment. *Kelvinator* has launched its 1956 line with new models in washers, dryers, ironers, refrigerators and freezers. One of the new features of the two-cycle, top-loading automatic washer is the "Do-All dial" control, shown below. With this dial two cycles are possible: a regular cycle for family washes and a separate shorter cycle for fine fabrics or smaller loads. An indicator slides across the arc-shaped dial to tell at a glance which phase of the washing cycle is in operation. *Kelvinator Div., American Motors Corp., Detroit 32, Mich.*

(Continued on page 234)

**THE MOST CONVINCING STAMP:
OF ARCHITECT & ENGINEER* SATISFACTION**



NEO-RAY LOUVRED CEILINGS

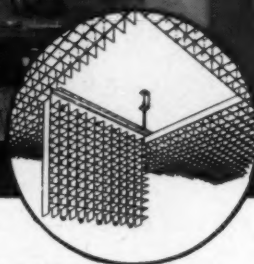
**METROPOLITAN
FEDERAL SAVINGS BANK
SEATTLE, WASHINGTON**

Architect:

**LaMONTE SHORETT
Seattle, Wash.**

Electrical Eng.:

**BEVERLY A. TRAVIS & ASSOC.
Seattle, Wash.**



Question:

Why did you choose NEO-RAY LOUVRED CEILING for this particular job?

***Answer:**

"We chose the Neo-Ray Louvred Ceiling because it was the only material which would provide an over-all effect. In other words, we did not want hanging channels or cross bars visible and it was felt that the most effective ceiling would be one with a continuous egg crate. We have also previously used this material on other jobs and found it very satisfactory."

Send for NEW LOUVRED CEILING catalog No. 544

See our catalog in Sweet's Architectural File sec. 30a
NE

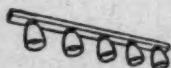
SPECIAL LOUVRE DESIGNS?

Let the "know-how" of our engineering department assist you. No obligation, of course.

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:



Louvred Ceilings



Roto-Strip



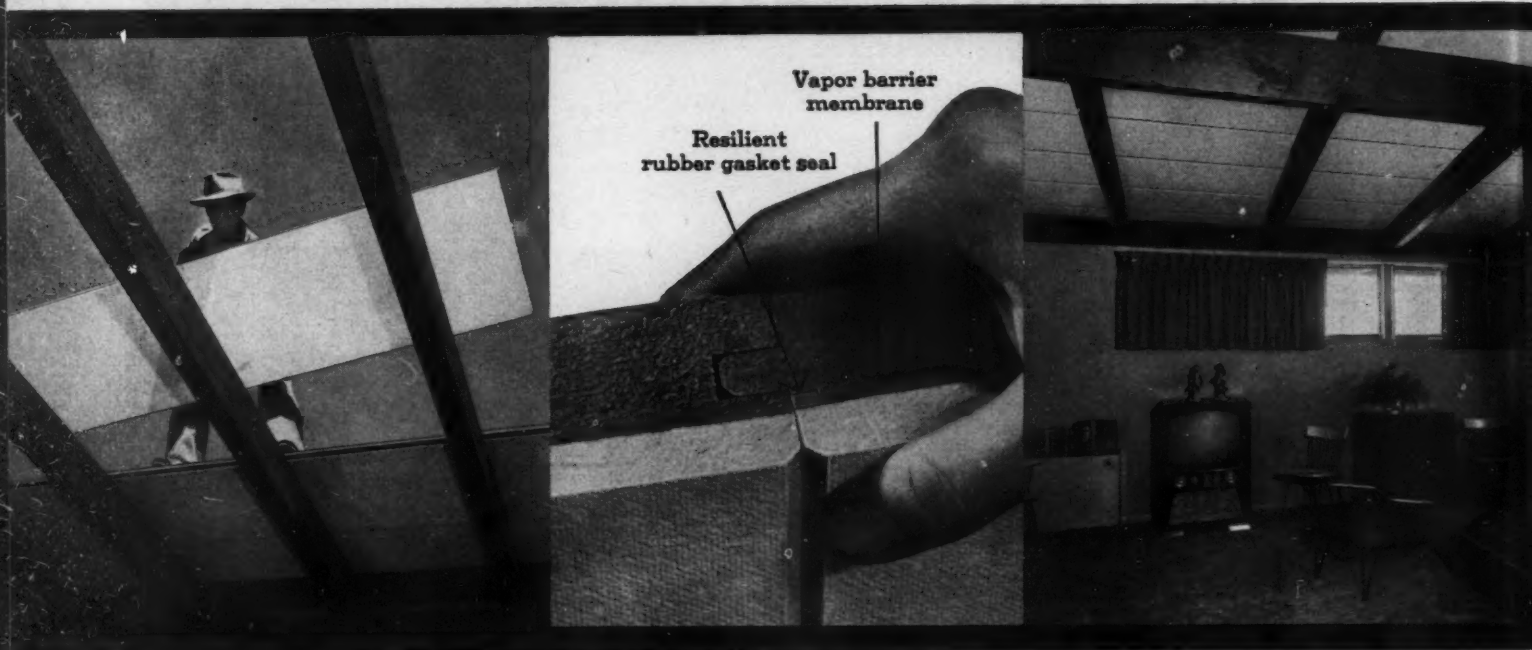
Luminette



Klean-VU KVT Troffers

NEO-RAY PRODUCTS, Inc.
315 East 22nd St. • New York 10, N. Y.

Insulite Roof Deck cut motel costs to \$1



1. It's roof deck—Two-by-eight foot units cut application time as much as 45%. Only one material to handle. New Insulite Roof Deck eliminates need for separate roof boards, insulation, lath and plaster and ceiling finishing. Insulite Roof Deck can save 12 man-hours per 1,000 sq. ft. of surface compared with 2"x6" D&M roof sheathing.

2. It's insulation with vapor barrier—No need for other insulation. Two-inch Roof Deck is comparable to 2" wood deck plus 1" fiberboard insulation. Available in 3 thicknesses to meet insulation requirements in any climate. Absorbs sound better than wood or plaster. Exclusive vapor barrier protects against condensation within the unit.

3. And finished ceiling—The underside of Insulite Roof Deck is finished with flame-resistant surface at the factory. Lay Roof Deck over pre-finished beams and ceiling is done. No need to plaster, paint, stain or wax. Cuts labor and material costs. In 2'x8' units, 1½", 2" or 3" thick with or without vapor barrier membrane depending on climate.

Build better and save with

INSULITE



Made of hardy Northern wood



INSULITE DIVISION, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

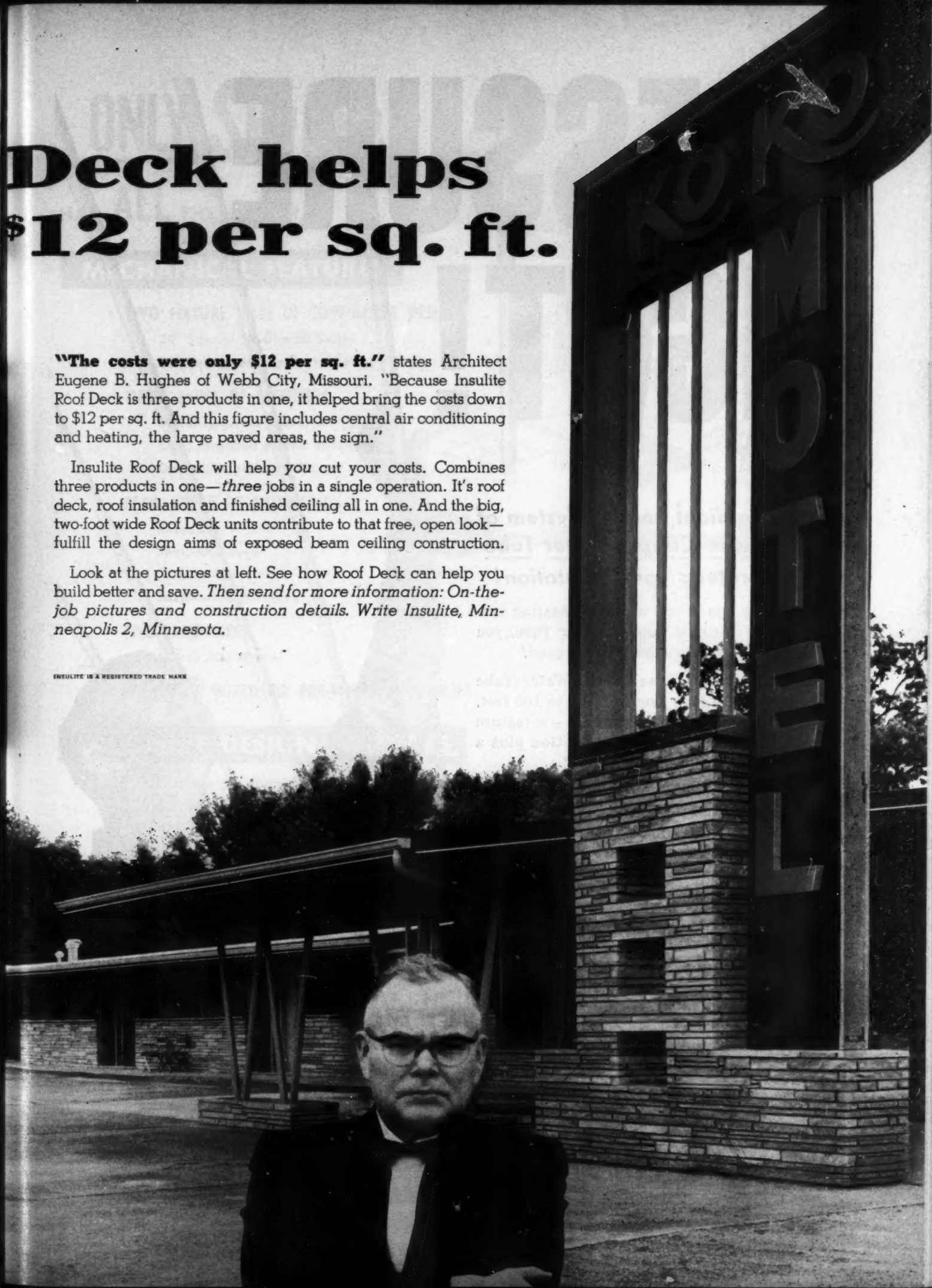
fDeck helps \$12 per sq. ft.

"The costs were only \$12 per sq. ft." states Architect Eugene B. Hughes of Webb City, Missouri. "Because Insulite Roof Deck is three products in one, it helped bring the costs down to \$12 per sq. ft. And this figure includes central air conditioning and heating, the large paved areas, the sign."

Insulite Roof Deck will help you cut your costs. Combines three products in one—*three* jobs in a single operation. It's roof deck, roof insulation and finished ceiling all in one. And the big, two-foot wide Roof Deck units contribute to that free, open look—fulfill the design aims of exposed beam ceiling construction.

Look at the pictures at left. See how Roof Deck can help you build better and save. *Then send for more information: On-the-job pictures and construction details. Write Insulite, Minneapolis 2, Minnesota.*

INSULITE IS A REGISTERED TRADE MARK



PRESSURE TIGHT!

***A radiant heating system of
Chase® Copper Water Tube
protects your reputation!***

Once you install a radiant heating system of Chase Copper Water Tube, you can be sure it's installed *for good!*

Because Chase Copper Water Tube comes in long lengths of 60 to 100 feet, fewer fittings are required — a feature that means easier installation plus a *truly* pressure-tight system!

What's more, the few fittings required are the most leak-proof known — they're solder joints — made with Chase Solder-Joint Fittings. One *more* reason why you can depend on a radiant heating system of *Chase* products!

For more information, write today for the free Chase Radiant Heating Booklet.



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Charlotte	Dallas	Houston	Milwaukee	New York	Rochester
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ONLY Skylike

HAS ALL THESE EXTRA

MECHANICAL FEATURES

- TWO FIXTURE SIZES IN COMPATIBLE DESIGNS

24" Square Skylike 50 Series

14" Square Jr. Skylike 70 Series

- THREE TYPES OF DIFFUSERS

Metal eggcrate louver

Eight panelled plastic diffuser

One piece plastic diffuser

- FOUR TYPES OF MOUNTINGS

Recessed

Semi-Recessed

Surface Mounted

Suspension Mounted

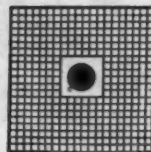
- FIVE LAMP SIZES

100 to 500 Watts

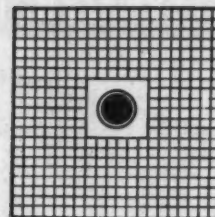
- CHOICE OF WIRED OR PRE-WIRED ASSEMBLIES



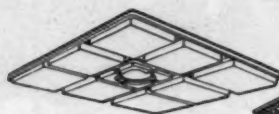
1 PIECE PLASTIC



LOUVER
14" x 14"



LOUVER
24" x 24"



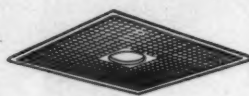
8 PIECE PLASTIC



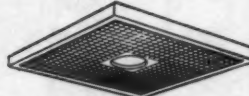
METAL LOUVER



1 PIECE PLASTIC



RECESSED



SEMI-RECESSED



SURFACE



SUSPENSION

EXCLUSIVE DESIGN FEATURES

- One piece die formed reflectors—contoured to give highest utilization of silvered bowl lamp output.
- Projection welded louver assembly—sturdiest louver made in the incandescent equipment field.
- Simple low cost accessories to adapt Skylike units to any ceiling construction.

Skylike THE MODULAR SILVERED BOWL INCANDESCENT UNIT...

Designed and made by the originators of silvered bowl luminaires—the firm that has brought silvered bowl lighting to its present state of perfection and efficiency.

MORE THAN ¼ MILLION INSTALLATIONS
IS "PROOF POSITIVE" OF SKYLIKE QUALITY

SKYLIKE LIGHTING, INC.

A SILVRAY ASSOCIATED COMPANY

RKO Bldg., New York • Bound Brook, New Jersey

Before you specify or buy

Get **ALL** the facts

Whether you're planning a lighting layout for schools, office buildings, stores or residences it will pay you to get the true facts of the "Skylike Story." Installation, efficiency, maintenance and cost data—yours for the asking. Send request to our Bound Brook Office.



Terrazzo Teaches the Fundamentals of Economics

Terrazzo serves elementary schools, colleges, and everything in between. Terrazzo is useful for corridors, labs, shops, machine rooms, toilets, washrooms, showers, and classrooms. Terrazzo is efficient—for stairs, wainscots, and wallbase. Terrazzo adapts to any size or shape of area. Terrazzo, used with white cement, color pigments and divider strips, provides unlimited variation of design and color. In short, Terrazzo is as versatile as an architect's imagination.

Requiring an absolute minimum of maintenance, Terrazzo's slightly higher initial cost is more than offset by its longevity. The net result is lowest cost per foot per year. Specify Terrazzo and relax.



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Send free AIA Terrazzo Kit to

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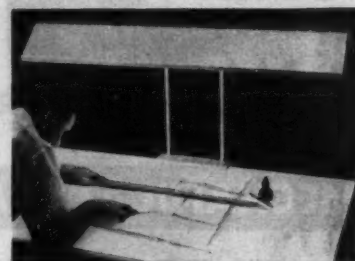
Firm.....

Street Address.....

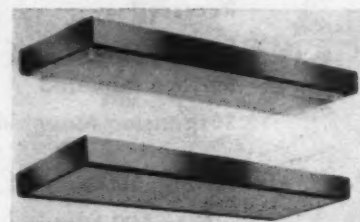
City.....Zone.....State.....

AIA PRODUCTS

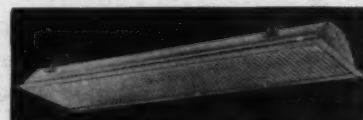
(Continued from page 228)



Drafting Board Lamp is 4 ft long to illuminate entire drawing board, even the corners, with 100 ft-candles of light. The *Draft-o-Lamp* is adjustable for height and clamps on the back of any drawing board, where it is out of the worker's way. The manufacturer claims that there is no heat radiation from the lamp. *Bulletin 123* available. *The Midwest Lighting Products Co., P. O. Box 536, Cleveland 7, Ohio.*



Surface-mounted Lighting Fixture. The 6600 Series *Visionaire* is available in two models. The QSDP (top) has a smooth Plexiglas diffuser with matte finish. The QPLM (bottom) has miniature-cell plastic louvers which offer 43 by 43 deg shielding. Both panels are hooked on for free swing. The two-lamp models are only 4 5/8 in. deep and are available in fluorescent or slimline 24-, 48- or 96-in. lengths. *Sunbeam Lighting Co., 777 E. 14th Pl., Los Angeles 21, Calif.*



Fluorescent Troffer is of one-piece wrap-around construction, with integral side trim flanges and snap-on end trim flanges. It is 4 1/2 in. deep and will fit any 5-in. recess. The two-lamp unit can be furnished with three diffusers: a Lucite diamond prismatic lens, an injection-molded plastic louver or a corrugated plastic diffuser. *The Miller Co., Dept. ML-1, Meriden, Conn.*

(Continued on page 240)

SARCO HEATING SPECIALTIES—a complete line

Float
Thermostatic
Steam Traps



Inverted Bucket
Steam Traps



Thermodynamic
Steam Traps



Radiator Valves



Radiator Traps



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Air Eliminators



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Fittings



Lift Traps



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Temperature
Regulators



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Blenders



Dial
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Room
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SARCO CONDENSATE AND VACUUM PUMPS



SARCO and SARCOTHERM

UNDIVIDED RESPONSIBILITY
for complete lines of

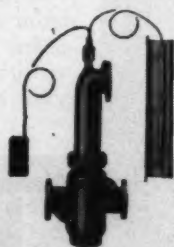
- ★ Heating Specialties
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SARCO COMPANY, INC. • SARCOTHERM CONTROLS, INC.
Empire State Bldg., New York 1, N. Y.

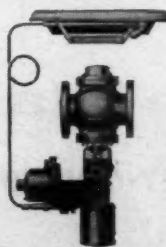
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SARCOTHERM WEATHER-COMPENSATED CONTROL SYSTEMS

Complete Systems Include All Accessory Equipment



Modulating Controls for
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**finned-tube
and baseboard
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You see things more clearly through L·O·F Parallel-O-Plate Glass than through any other glass made in America!

L·O·F Parallel-O-Plate Glass is *twin-ground* for a visual quality that cannot be matched by *ordinary* plate glass ground one side at a time. It is the only *twin-ground* plate glass made in America. *Yet, in most localities, it costs no more than regular plate glass!*

Insist on Parallel-O-Plate Glass for your windows. And make sure any mirrors you buy are made of Parallel-O-Plate.

Parallel-O-Plate Glass is available from Libbey·Owens·Ford Distributors and Dealers. You'll find their names under "Glass" in yellow pages of phone books.

For complete information on this remarkable glass, write Dept. 75125, Libbey·Owens·Ford Glass Company, Toledo 3, Ohio.



LOOK
FOR
THIS
LABEL

L·O·F Parallel-O-Plate Glass

Finest plate glass made in America...only by LIBBEY·OWENS·FORD a Great Name in Glass

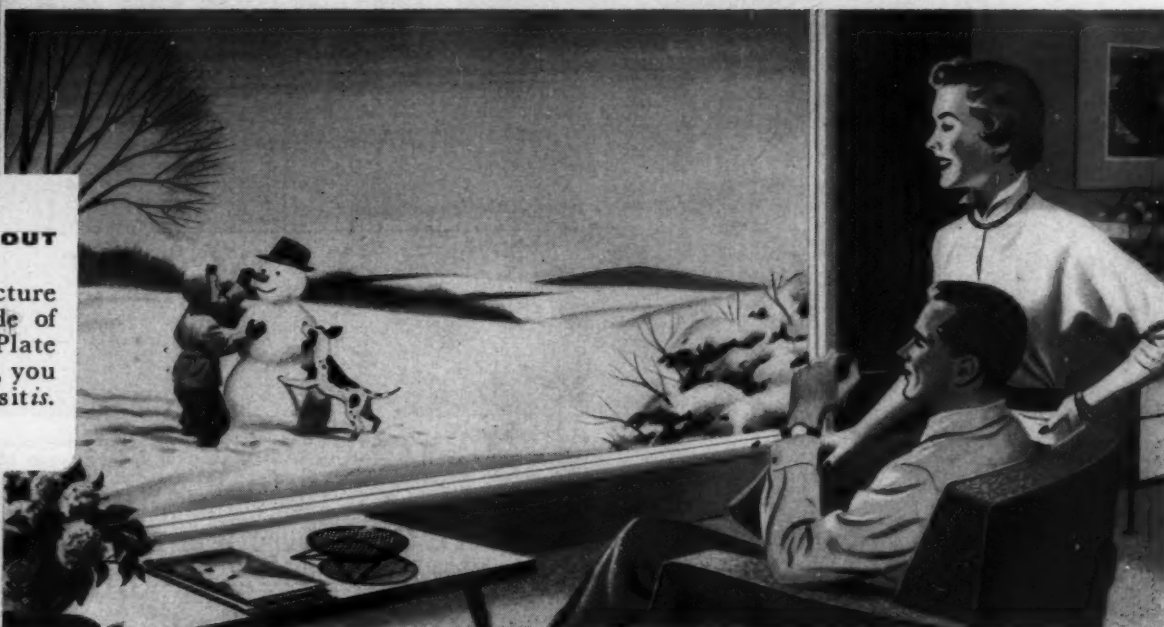
LOOKING IN

through the clear Parallel-O-Plate Glass in a storefront, you hardly know the glass is there.



LOOKING OUT

of your picture window made of Parallel-O-Plate Thermopane*, you see the scene as it is.



LOOKING AT

Parallel-O-Plate Glass windows, you see how much its truer reflections mean to exterior appearance.



NOW, YOU CAN SPECIFY A LOWER-COST VINYL WALL BASE



NEW 2½" KENCOVE Vinyl Wall Base costs less to install. Looks smarter, too—especially in modern, low-ceiling rooms.

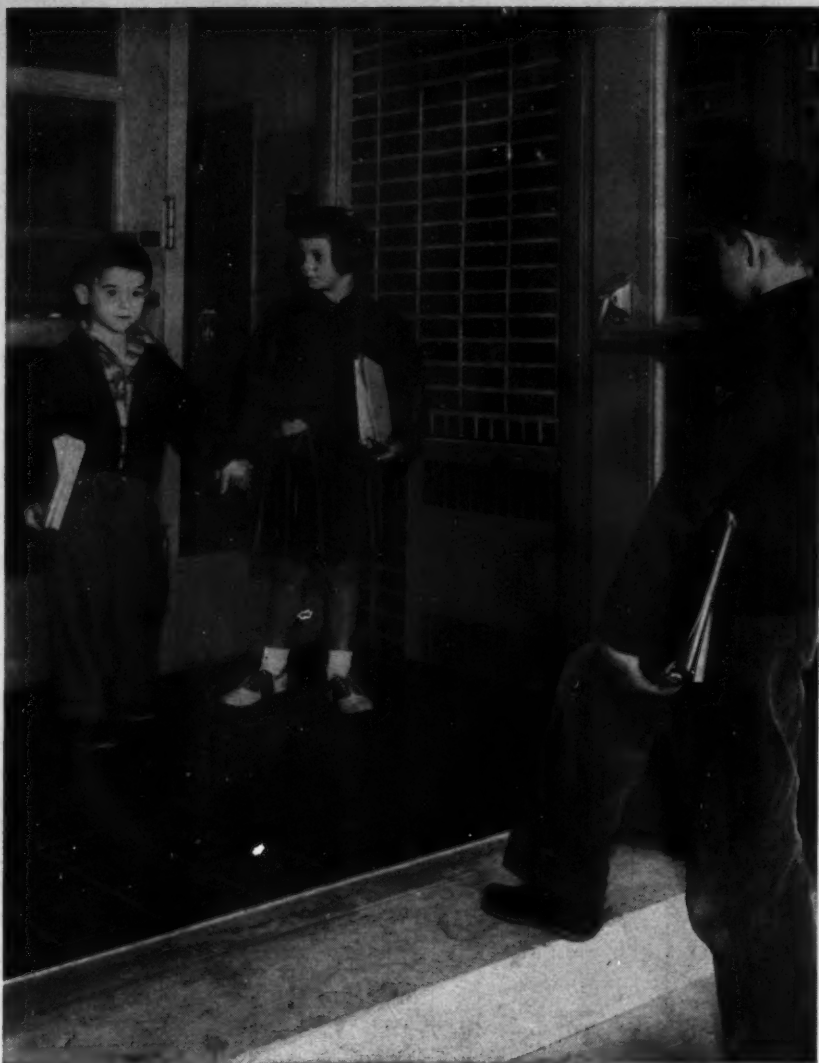
NEW 2½" KENCOVE has all the advantage of 4" and 6" Ken-cove Base. It's greaseproof—alkali-proof—with a smooth, easy-to-maintain surface that never needs painting. And it molds easily around corners—will not break, chip, crack or bloom.

Tapered top and coved base assure perfect, dust-tight seal. Corrugated back grips tight over any smooth, dry clean wall not in contact with the earth. Choice of five smart colors:—black, brown, green, gray and sumac red.

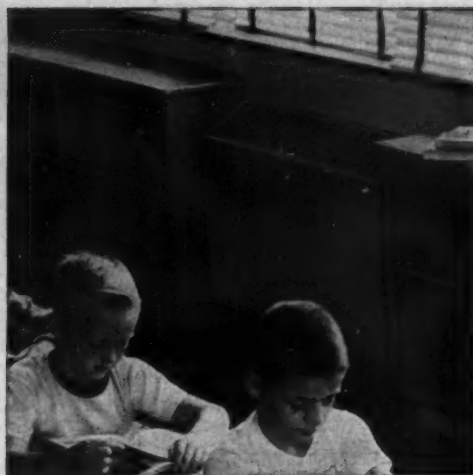
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Resilient Floor Tiles*

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KENTILE, INC., 58 SECOND AVENUE, BROOKLYN 15, NEW YORK • 350 FIFTH AVENUE, NEW YORK 1, NEW YORK • 705 ARCHITECTS BUILDING, 17TH AND SANBOM STREETS, PHILADELPHIA 3, PENNSYLVANIA • 1211 NBC BUILDING, CLEVELAND 14, OHIO • 900 PEACHTREE STREET N.E., ATLANTA 3, GEORGIA • 1016 CENTRAL STREET, KANSAS CITY 5, MISSOURI • 4832 SO. KOLIN AVENUE, CHICAGO 32, ILLINOIS • 4801 SANTA FE AVENUE, LOS ANGELES 39, CALIFORNIA



Dunham Convectors inside all doorways and corridors cut down hall drafts . . . help maintain even, healthy temperatures throughout the building. Architects, Barry and Kay, Chicago. Consulting Engineer, William T. Brookman, Chicago.



Dunham Convectors under today's large windows help counteract chilling downdrafts, circulate warmed air throughout rooms, stand up to rough usage.



Finger-Tip Control. Entire school heating system is automatically controlled from this single VARI-VAC control station.

How **DUNHAM VARI-VAC HEATING** adds to your business at "addition" time

This Lombard, Illinois, school—like so many today—was "outgrown" almost before it was completed just three years ago. The only solution—a new addition.

So Barry and Kay, Chicago, architects, and Wm. T. Brookman, Chicago, consulting engineer, were called *back* to design an addition . . . called *back* because Lombard school officials were satisfied with the *original* building.

One primary source of satisfaction: dependable,

economical Dunham VARI-VAC® Heating, the precision temperature control system that not only assures comfortable schoolrooms but also makes possible *fuel savings as high as 40%* . . . twin arguments in high favor with hard-pressed school principals, school boards and taxpayers.

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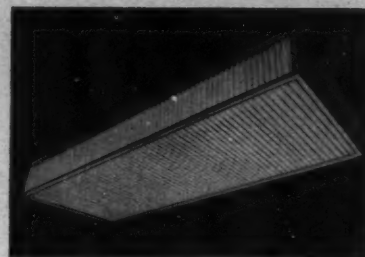
City _____ Zone _____ State _____

(Continued from page 234)

Touchtron Lamp Control makes it possible to turn portable table lamps on and off merely by touching a part of the lamp. The control is actually an electronic impedance switch, wherein the switching action is controlled by a touch of the hand to two adjacent metal surfaces—such as the metal base and a decorative band. Touching the two designated areas causes a special electronic tube to fire, operating a relay

which switches the lamp. The control is unaffected by temperature and humidity, physical location in the home or static charges and poses no hazards of shock. It is presently being adapted to additional products. *General Electric Co., Accessory Equipment Dept., Bridgeport, Conn.*

Acoustic Lighting Fixture. *Acusti-Luminaire* combines light and sound control in one light fixture. Individual reflectors of sound-absorbent white fiber glass give acoustical treatment while utilizing full



light reflectivity. Side and bottom panels are of corrugated plastic. The fixture is available in 2-, 4- and 6-lamp styles in widths of 19, 24 $\frac{1}{4}$, 36 $\frac{3}{4}$ and 48 $\frac{3}{4}$ in. and in lengths of 48, 72 and 96 in. Depth is 6 $\frac{3}{4}$ in. *Luminous Ceilings Inc., 2500 W. North Ave., Chicago 47, Ill.*



Combination Shelf and Soap Dispenser offers two conveniences in a public washroom which usually occupy the same space over the basin. *Lathursshelf* is made of polished stainless steel 20 in. long and 4 $\frac{3}{4}$ in. wide and is available with one or two soap valves for installation over one or two (as shown) basins. The stainless steel soap reservoir holds $\frac{1}{2}$ gal of either lather or liquid soap. A wide separate wall plate secures the unit against leverage. Installation screws are concealed. *American Dispenser Co., Inc., 115 East 23rd St., New York 10, N. Y.*



Forced-air Wall Heater stands 95 in. high, 14 in. wide and 9 $\frac{1}{2}$ in. deep and can be installed between normal 16- or 24-in. studs. The *Forced Air Panelray* provides warm air from the 65,000-Btu-rated unit at floor level, and yet its design eliminates the need for expensive ductwork. One, two or three heat outlets are available from a single unit. It operates with natural, manufactured or L-P gas. *Day & Night, Advertising Dept., 700 Royal Oaks Drive, Monrovia, Calif.*

Fairhurst offer a Modern Approach to Religious Architecture ...

T.M. Reg.



TEMPLE ISAIAH
Forest Hills, N. Y.

Architect: Schuman
& Lichtenstein, N. Y.

2 Fairhurst Unitslide Walls permit maximum use of space areas in this up-to-date community center

Top: one wall, closed. Right: shows walls, units partly opened. Bottom: Head-on view shows one wall in place, other folded into pocket. Walls consist of 6 units, each 6' wide, 15' high, faced with Honduras Mahogany and Walnut.



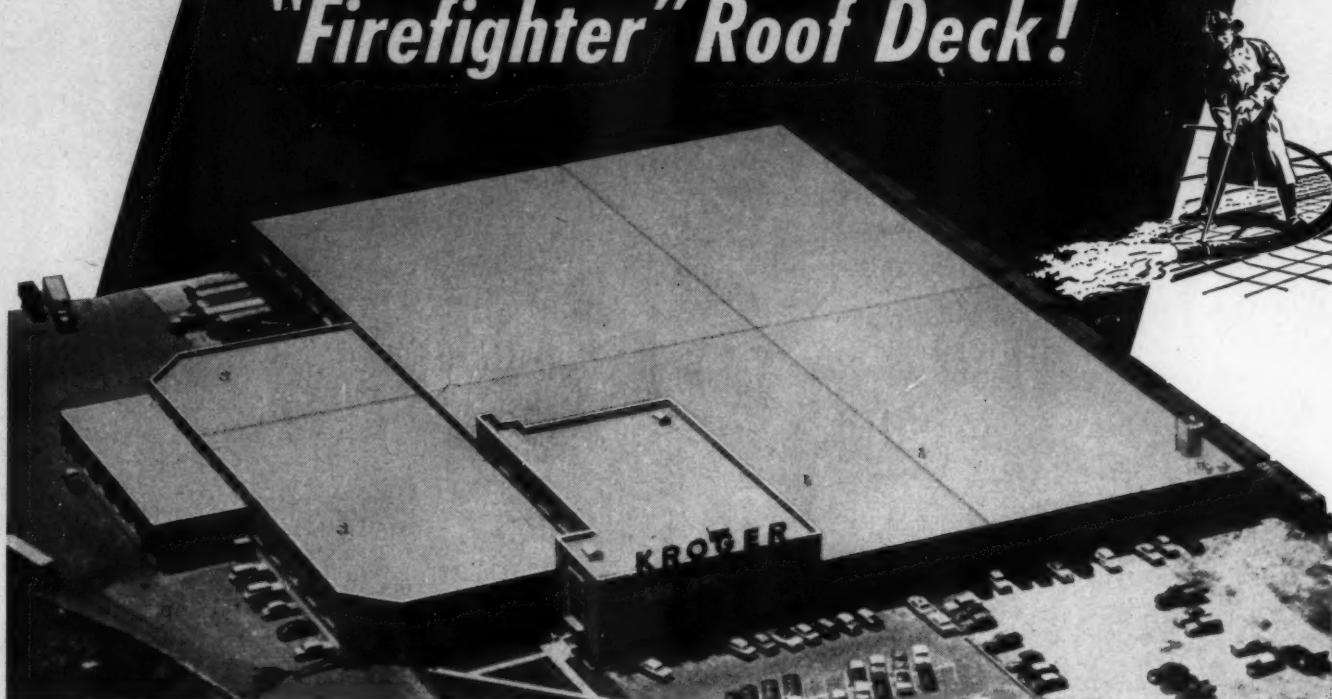
To serve a large suburban community within a few miles of New York City, Temple Isaiah maintains a full calendar of activities for all ages and interests, day and night, throughout the week. Large and modern as it is, the Temple required utmost flexibility of space to meet these heavy demands. To solve the problem, two Fairhurst Unitslide Folding Walls were installed—one on each side of the entrance corridor. This permits four different arrangements of auditorium space. Other advantages: smooth, quick operation of the walls; solid, rigid structure; high sound retardance permitting meetings to be conducted simultaneously in adjoining rooms with full privacy; striking beauty of finish. We offer a generation of specialized knowledge in folding wall construction.

John T. Fairhurst Co., Inc.

45 West 45th Street

New York 36, N. Y.

8 million pounds of food protected by Gold Bond "Firefighter" Roof Deck!



Kroger Warehouse, Charleston, West Virginia; General Contractor: Rust Engineering Co., Pittsburgh, Penna.; Roof Deck Applicator: Hoge-Warren-Zimmerman Co., Cincinnati, Ohio.

The new Kroger Warehouse in Charleston, West Virginia holds enough solid food to feed a city the size of Denver for a week. A Gold Bond "Firefighter" Gypsum Roof Deck protects this valuable supply from fire.

Over 153,000 sq. ft. of incombustible gypsum roof deck forms a natural fire shield over the entire building structure. Gypsum cannot burn and will not warp or transmit high temperatures when exposed to heat and flame.

Gold Bond "Firefighter" Roof Decks are poured-in-place. Construction is fast...as much

as 30,000 sq. ft. of gypsum can be poured in a single day. These decks, installed by approved contractors, can take full load capacity in less than an hour because of quick setting action. Whether you design a pitched, barreled or flat roof, "Firefighter" Roof Decks are completely adaptable. Their low dead load permits lighter supporting structures and allows substantial construction savings.

Learn how "Firefighter" Roof Decks can help you in your building plans. Send in coupon below for full details.

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Gold Bond**

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National Gypsum Company, Dept. AR-125, Buffalo 2, N. Y.
Gentlemen:
Please send me Technical Bulletin No. 589 with complete details on Gold Bond "Firefighter" Roof Decks.

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Keep your clients' employees



s free from "Jungle Jangle!"

Step up the efficiency of offices you plan with metal, movable VMP MOBILWALLS

Don't let noise, confusion, and unchanneled traffic take their toll in the productivity of offices you plan. Eliminate "Jungle Gym" distractions right from the start by including VMP MOBILWALLS in your blueprints.

Smartly styled, easily installed VMP MOBILWALLS partition offices into livable working areas, give your clients' employees productive privacy—increase work output as much as 30%, according to recent *ratio-delay studies*.* You

can simplify many of your design problems with VMP MOBILWALLS. Because they're much lighter than plaster and tile walls, they permit the use of lighter, less costly supporting members in new construction. You can provide for heavier electrical requirements with MOBILWALLS because wiring raceways are built in and easily accessible. Metal VMP MOBILWALLS far surpass tile and plaster walls in thermal insulating properties and sound attenuation characteristics.

*Ratio-delay studies accurately rate office efficiency before and after installation of VMP MOBILWALLS. Typical studies are available on request.



PRODUCTIVE PRIVACY is provided by VMP MOBILWALLS in any office or plant. They can be moved easily anywhere, any time, to suit floor plan changes. Surfaces never chip, warp, or crack—wash clean with soap and water. Colors are scientifically selected to produce a pleasant working atmosphere.

SPEEDY INSTALLATION by skilled crews, working out of nearby warehouses, saves your time and your clients' money. VMP sales representatives and factory engineers work with you, help you design more productivity and livability into offices.

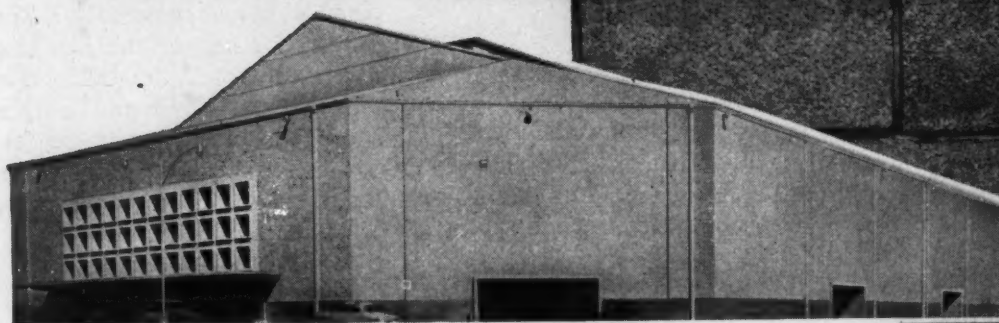
Better check into VMP MOBILWALLS today. Write to Dept. AR11 for complete, illustrated literature.

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Subsidiary of Chesapeake Industries, Inc.

for
clean,
true edges



and
richer
texture

Heart O' Texas Coliseum, Waco; Owner, McLennan County; Contractor, Farnsworth and Chambers Co., Inc., Houston; Architect, Harris H. Roberts, Waco.

...concrete block made with **DURAPLASTIC***

Over ninety-eight thousand concrete blocks went into the building of Waco's Heart O' Texas Coliseum. The job was a big one, calling for good looks on a large scale. That's why concrete block made with Atlas Duraplastic air-entraining portland cement were used.

A good choice, too. Because Duraplastic makes a more compact, more cleanly formed block with greater resistance to the passage of water. For outstanding durability and good appearance, use Duraplastic-made block on your next project.

Use Atlas Duraplastic cement in your regular concrete

work, too. Aids proper placement and increases durability. Requires no unusual changes in procedure. Sells for the same price as regular cement. Complies with ASTM and Federal Specifications. Write for free descriptive booklet.

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AR-D-177

AIR-ENTRAINING PORTLAND

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MAKES BETTER CONCRETE AT NO EXTRA COST

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CATHOLIC HOSTEL, DALLAS, TEXAS

Architect: George L. Dahl
Contractor: Sachs and Stevens
Steel Fabricator: Macatee, Incorporated
Steel Erector: Dallas Lightsteel Framing Co.



WHY ARCHITECT GEORGE L. DAHL SELECTED **LIGHTSTEEL** FOR DALLAS' CATHOLIC HOSTEL

Dallas' new Catholic Hostel is a brick veneer building, with lightweight concrete roof deck on $\frac{3}{8}$ " rib lath. Framing: Penmetal LIGHTSTEEL.

The architect, George L. Dahl, selected LIGHTSTEEL structural sections because they offer all the benefits of conventional steel framing. LIGHTSTEEL sections are fabricated from structural grade steel by cold forming and are designed for maximum economy strength-to-weight ratio.

They cut costs of erection, too. Sections are designed to fit together for ease of assembly and welding in the shop or at the job site. Because of their light weight, complete wall panels and roof trusses can be readily trucked to the job site and quickly erected.

Send for 16-page illustrated catalog.

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Plant: Parkersburg, W. Va.

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Load bearing partitions consist of Penmetal LIGHT-STEEL structural studs, fastened at top and bottom to LIGHTSTEEL track, and braced with LIGHTSTEEL bridging. Metal lath is wire-tied to both sides of the studs, and then plastered. This provides a light-weight, fire-safe construction that has an excellent sound transmission loss rating.



(Continued from page 240)

Two-piece Fire Hose and Extinguisher Cabinets feature removable doors and trim so that the inside equipment (angle valve, hose rack and hose for fire hose cabinet) can be installed quickly and without damage to door and trim. The doors, which can be secured quickly after the equipment has been installed, swing open at a 180-deg angle. The units are available in color finishes. *The Fyr-Fyler Co., Dayton, Ohio.*

Steel Sliding Closet Unit is now available with top-hung doors. The new *Amweld* knocked-down door replaces a floor track with a top track of extruded aluminum, with "derail-proof" nylon rollers. A steel valance conceals the track and hangers, which are adjustable to assure proper fit. The standard unit, in prime or birch finish, comes in 6 ft 8 in. or 8 ft. *The American Welding & Mfg. Co., Warren, Ohio.*

Protective Coating. *Dimetcole* is a 100 per cent inorganic, metallic zinc coating

that gives existing steel structures the same protection that galvanizing affords, plus salt water resistance. Not only is it resistant to severe weathering and abrasion, but also it is unaffected by solvents and petroleum products. Applied with either brush or spray, *Dimetcole* requires only one coat for most applications. *Amercoat Corp., 4809 Firestone Blvd., South Gate, Calif.*



Jack Knife Window has a positive weathering feature which eliminates the possibility of air or water infiltration past the operating sash and frame. It is especially designed for air-conditioned and multi-story buildings where washing is a problem. Projection can be either in or out, and the windows can be either horizontally or vertically projected. Sash can be glazed from 1/4-in. plate or 1-in. double glazing. *Marmet Corp., Wausau, Wis.*



"Best-Vent" Aluminum Windows open at top and bottom simultaneously with one action. A slide lock of molded nylon locks the sash in a tight seal. The windows can be installed quickly in masonry, frame or brick by means of "snap-on" anchors. Mullion covers also snap on to give a one-piece effect. A channel and weep-hole system provides for drainage of condensation from sill to lower rail channel and out through slotted weep holes. The weather-stripped units are offered in widths up to 3 ft 8 in. and in heights from 3 to 5 ft. *Per-Fil Products Corp., Indianapolis, Ind.*

(Continued on page 252)

SUN LIFE INSURANCE COMPANY OF AMERICA

Baltimore, Md.



7 Balanced Doors in the entrances to Sun Life Building.



ARCHITECTS

Buckler, Fenhagen, Meyer & Ayers



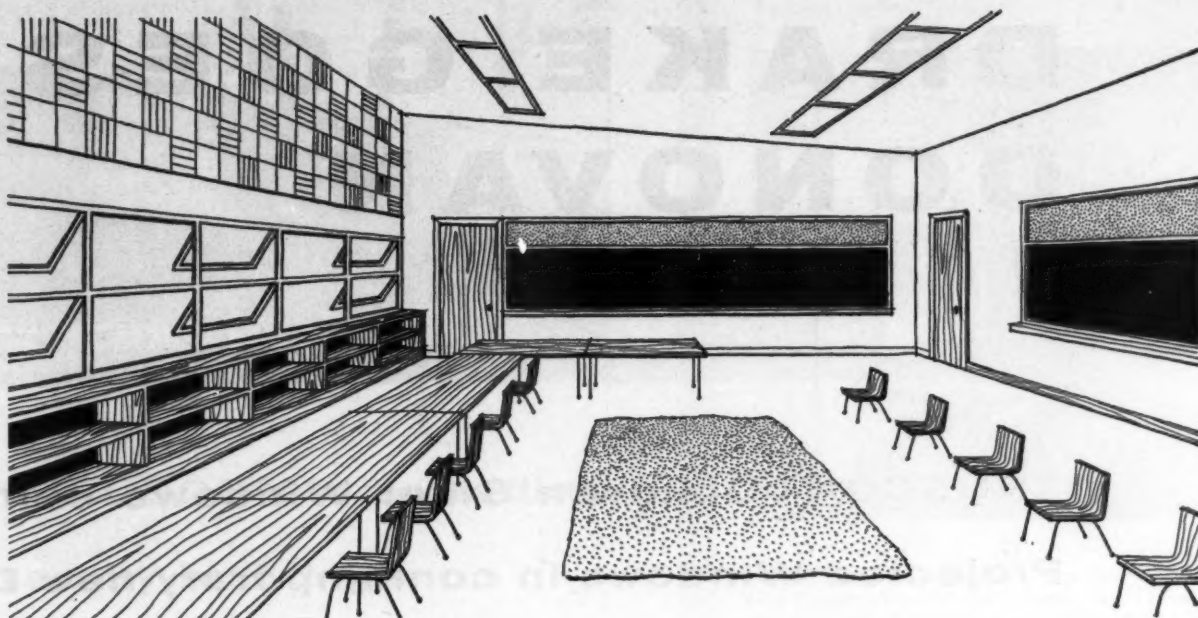
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TRAFFIC through QUICKLY

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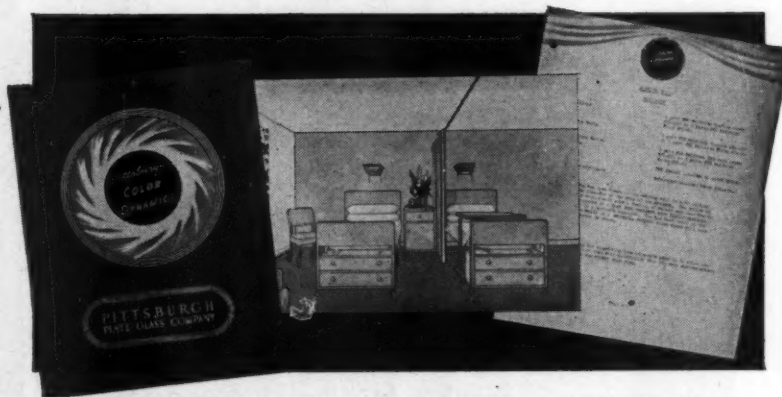
THE importance of the effect of color environment on people is today recognized by practically everyone who owns or operates an industrial, commercial or service enterprise.

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● **Why not let us submit** *engineered* color recommendations to go with your plans? These recommendations are based upon the principles of COLOR DYNAMICS®. This modern system of painting has demonstrated its ability to improve productive efficiency, morale and well-being in many fields.

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For Additional information on COLOR DYNAMICS see Sweet's Architectural File, Section 14/PL



Engineered color studies based upon COLOR DYNAMICS, complete with suggested color samples, are bound in booklet form. Also included are recommendations for the correct types of coating to be used on every kind of material and construction.

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DRAKE GOES DONOVAN

**TRUSCON® Donovan Steel Windows combine
Projected Windows in contemporary new Drake**

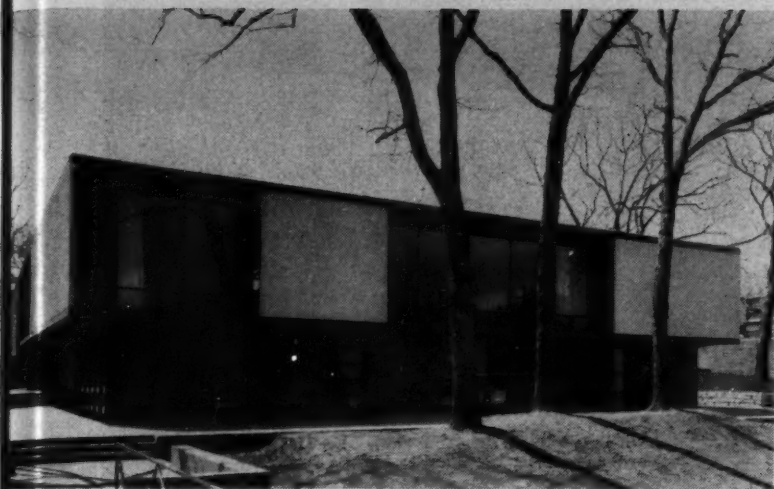
*Women's Dormitories and Dining Hall,
Drake University, Des Moines, Iowa.*

Saareinen and Saareinen and Saareinen, architects.

Brooks and Borg, associate architects.

The Weitz Company, contractors.





with TRUSCON Intermediate University buildings

In contemporary design, windows are more important than ever!

You need windows with the *strength of steel* for use with larger unsupported glass sections. You need windows that offer *ventilation* plus large glass areas.

For these requirements, Truscon offers you an unsurpassed choice of types, styles and sizes. In this new Drake University Women's Dormitory and Dining Hall you see a happy combination of two important Truscon Steel Window types.

Truscon Donovan Awning Windows offer superb lighting and ventilation without drafts. Ventilators operate in unison, either by mechanical control or by completely concealed operators. The awning principle permits ventilation in inclement weather; the design completely eliminates all unsightly exposed connecting arms, screws, racks. Exceptional depth of the members provides the strength necessary for long, trouble-free performance.

Truscon Heavy Intermediate Projected Windows are eminently suited for use in the finest buildings. Constructed of specially rolled steel sections of substantial weight and original design, they provide advantageous weathering features and attractive architectural appearance. Truscon Heavy Intermediate Projected Steel Windows are offered in a variety of sizes and designs for all types of buildings regardless of size, architecture, purpose or location.

The Sweet's Architectural File in your office has details and sizes of all Truscon Metal Windows. Consult it, or send coupon below for specific information.

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Seattle's new George Standing Memorial Hospital features Truscon Series 50 Interior Steel Doors. These flush steel doors and frames cannot warp, twist, shrink or swell. They are sound deadened to smother normal operating noise. Series 50 Doors are Bonderized for best rust protection and paint adherence, and finished with baked-on prime coat of paint. You finish paint to match decorative scheme. Series 50 Steel Doors and Frames save dollars on cutting, fitting, framing, hanging. Write for more details.



Pittsburgh's new Grant Store is built with Truscon "O-T"® Steel Joists. Open Truss Steel Joists are lightweight, fire-resistant, rigid and economical. They provide low-cost-per-square-foot construction with adequate strength and safety. They are self-sustaining. Any number of floors can be erected at one time with joists serving as working platforms. NOW! TRUSCON offers a NEW CLERESPAN® STEEL JOIST 96 FEET LONG. Write for details.

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| <input type="checkbox"/> Truscon Interior Steel Doors | <input type="checkbox"/> Truscon Steel Joists |

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practically take care of themselves

Marlite is different than other wall surfacing materials. It provides an *economical* and *distinctive* surface that stays that way for years. Moreover, Marlite's plastic finish resists grease, heat, and stains. That means lower maintenance costs; elimination of periodic redecorating. Even repeated washings with soap and water won't affect Marlite's beauty.

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And give yourself the design possibilities that Marlite Planks, Blocks, and large Panels afford. For both commercial and residential applications, Marlite's wood and marble patterns, in addition to "Companion Colors" styled by Raymond Loewy Associates, make possible an unlimited range of imaginative interiors. For full details consult your building materials dealer, refer to Sweet's File, or write Marsh Wall Products, Inc., Dept. 1205, Dover, Ohio.

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PLASTIC-FINISHED WALL AND CEILING PANELING

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LARGE SIZE AIRTHERM ROOF DECK REDUCES COST 10%



**TWO PANELS
COVER 100 SQ. FT.**

- fewer laps
- more rigid construction
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ARE YOUR JOBS GETTING THE LOWER COST BENEFITS OF AIRTHERM ROOF DECKING?

No construction delay because of weather—that's the reason steel decking saves invaluable time and money. Airtherm large size Decking reduces labor and handling costs as much as 10% by actual installation reports. This results in additional time savings, quicker occupancy, fewer laps, greater structural strength, and a more fire and buckle resistant roof. Make us prove Airtherm's advantages on your next roof deck job. Phone, wire, or mail coupon.



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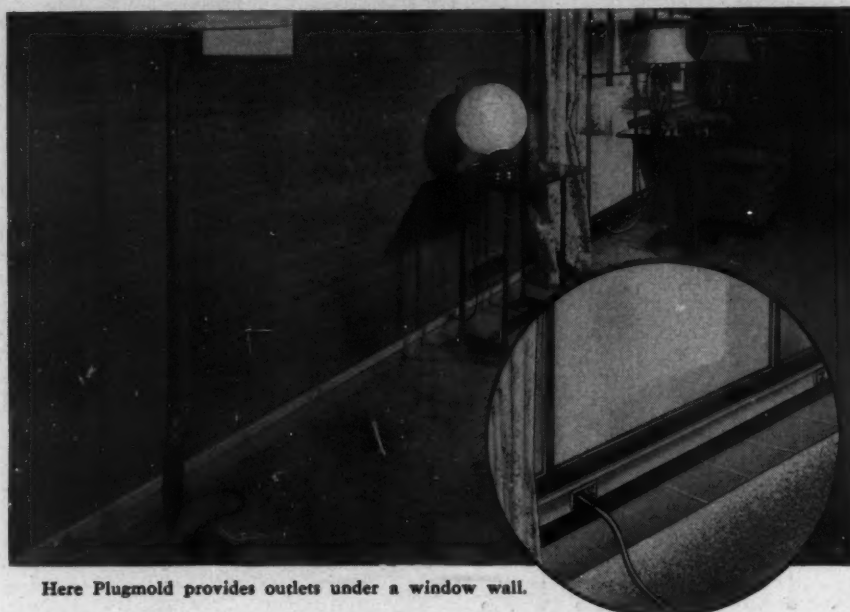
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Plugmold

is 6 ways better

than any other type multi-outlet system

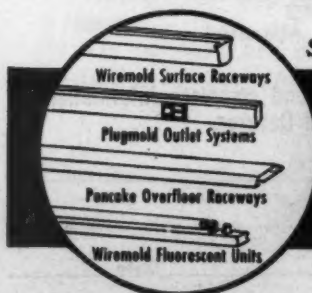


Here Plugmold provides outlets under a window wall.

PROVED on thousands of installations!

- 1. Easiest to Install.** Plugmold raceways can be attached to *any* surface. $\frac{1}{2}$ " knockouts located on approximately 8" centers permit the strip to feed anywhere along its length.
- 2. Fastest to Install.** Snapicoil ready-wired receptacles *snap* into Plugmold raceway cover, provide a fast, *quality* installation in a continuous run.
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- 4. Inconspicuous.** No bulky feed boxes, no protruding receptacles. Unobtrusive Plugmold raceway can be painted to blend with color scheme of any room. Plugmold is "out of sight, never out of reach."
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- 6. Provides Better Electrical Service.** 3-wire duplex receptacles, with one side switched and one hot; 2-wire duplex receptacles, with both sides hot; NEMA 2-wire, grounded receptacles — all 3 services fit the one Plugmold raceway.

The services of our engineering staff are available to help with any wiring problem you have. Write to Dept. B12



Stocked by electrical wholesalers... everywhere.

THE WIREMOLD COMPANY

HARTFORD 10, CONNECTICUT

A-E PRODUCTS

(Continued from page 246)

Rubber Floor Enamel. *Florply* floor enamel marks the first time, according to the manufacturer, that true natural rubber has been incorporated successfully in paint pigments and oils. The product is said to retain the exact chemical structure, and therefore all the advantages, of natural rubber. It is resistant to strong soaps, acids and alkalis and accommodates temperature and moisture changes. *Forman, Ford and Co., 111 So. Second St., Minneapolis, Minn.*



Rubber Control Joint for masonry walls allows for slight wall movements resulting from contraction and other stresses and relieves the strain in the control joint section of the wall. The cross shape of the *Blok-Joint* secures interlock and aids in maintaining lateral stability. It is designed also for use with standard metal window sash blocks. *The Carler-Waters Corp., 2440 Penway, Kansas City 8, Mo.*



Stacking Chairs. A stacking base with an interlocking side device has been designed by Charles Eames for his molded plastic side chairs. The chairs, on which a patented side hook permits them to be joined in long rows for indoor and outdoor use, can be quickly set up, easily detached and compactly stored to ceiling height without becoming top-heavy. The base is made of tubular steel. *Herman Miller Furniture Co., Zeeland, Mich.*

(Continued on page 258)

Modine Convectors

30 types, 8000 sizes

There's a Modine Convector to meet your exact needs: Deluxe, standard and institutional models—free-standing, fully and partially recessed, concealed and wall-hung types with many design variations. Model shown above is a Type F, fully recessed.

Smartest buy—three ways!

1. IMPROVE ROOM APPEARANCE

Modine Convectors replace unsightly radiators . . . lend smooth, classic-modern appeal to every room. And they're finished to "take" paints that match any decor. Also, Modines retain "new look" for years because of special bonderizing process.

2. INCREASE OCCUPANT COMFORT

Modine Convectors assure gentle circulation of warm air. There are no drafts, no hot spots near the convector, no cold spots in the far corners. And, because they are individually controlled, they can easily be set to suit the occupant's express wishes.

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Considering the many advantages they offer, Modines are remarkably low priced. And—they offer years of efficient, inexpensive heating at nominal cost for maintenance. Each Modine, regardless of its price bracket, is craftsman built with quality materials.

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For complete details, contact the Modine representative listed in the classified phone book or write Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wis.

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CONVECTOR RADIATION

Plan windows for beauty and weatherproof comfort



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There's delight in winter beauty, plus protection from winter blasts, in homes you plan or build with Andersen WINDOWALLS. As windows they let in sunshine, fresh air, the view. As walls they provide year 'round protection against cold, dust and moisture.

For specification data see Sweet's Files, or write for Detail Catalog and Tracing Detail File. WINDOWALLS sold by lumber and millwork dealers throughout the United States including the Pacific Coast.

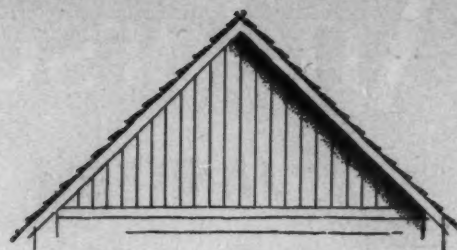
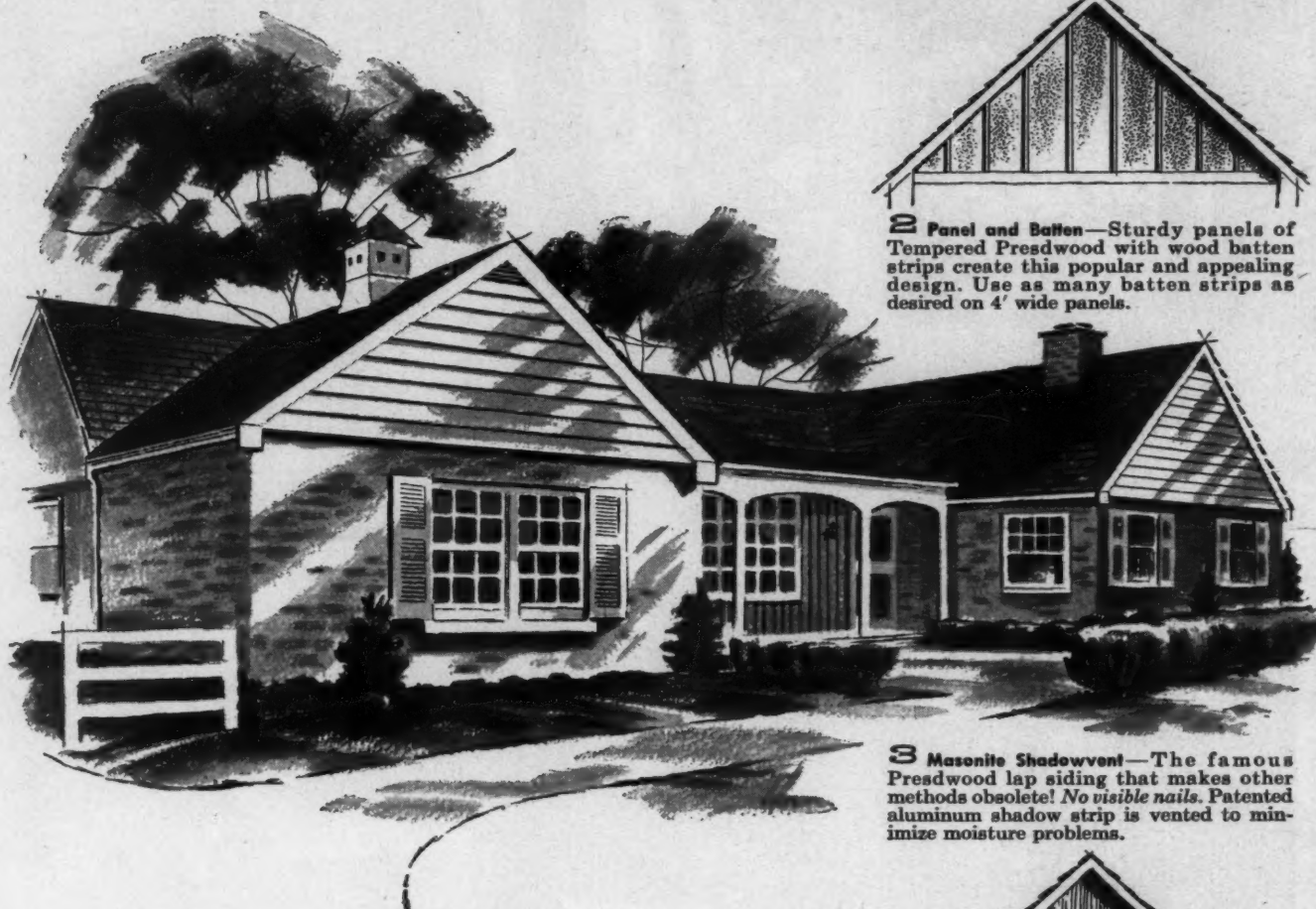
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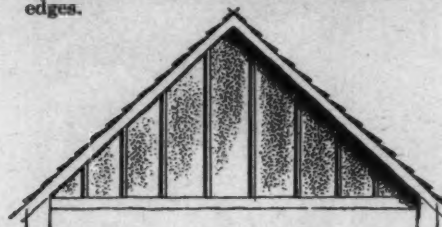
Andersen Windowalls*



5 ideas for distinctive, trouble-free gable ends...



1 Masonite Panelgroove—Newest member of the Presdwood family, Panelgroove presents clean-cut vertical grooves every 4', giving an attractive plank effect. Ship-lapped edges.

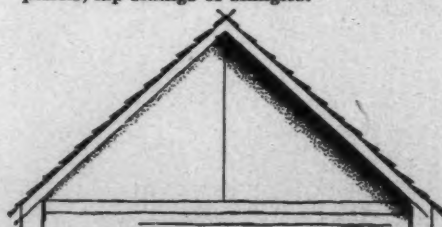


2 Panel and Batten—Sturdy panels of Tempered Presdwood with wood batten strips create this popular and appealing design. Use as many batten strips as desired on 4' wide panels.

3 Masonite Shadowvent—The famous Presdwood lap siding that makes other methods obsolete! No visible nails. Patented aluminum shadow strip is vented to minimize moisture problems.



4 Masonite Ridgewood—Combed textured surface of this new Presdwood affords a rich-looking, distinctive design that harmonizes with any other siding treatment. In panels, lap sidings or shingles.



5 Masonite Tempered Presdwood Panels—Economical to buy and apply. Won't twist or swell out of shape when simple instructions are followed. Takes and holds paint without checking or crazing.

Weather-defying Masonite Presdwood® products offer a refreshing variety of interesting treatments for gable ends, short runs, accent areas and other exterior applications. Strong, firm and grainless, they resist moisture and temperature changes permanently!



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JAMISON
sound reduction
doors
lead in
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JET ENGINE TEST CELL (High thrust)—An inner and outer set of double Jamison Sound Reduction Doors for extremely high sound levels.

Aircraft engine noise effectively minimized in test cells of all types

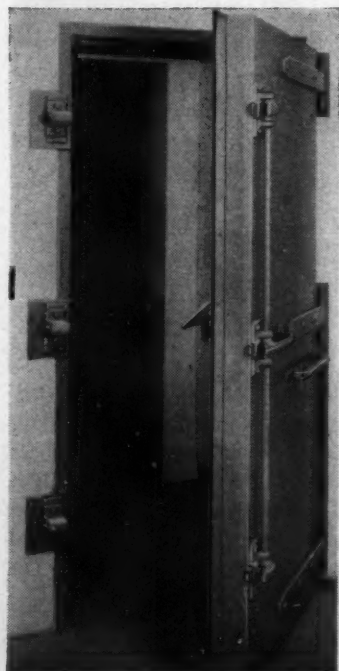
Jamison Sound Reduction Doors have become the No. 1 weapon in the increasingly important war against noise. For years Jamison has been furnishing Sound Reduction Doors to the Air Force and aircraft engine manufacturers for use in test cells for engines of all types. Today Jamison is the foremost supplier of doors scientifically designed to minimize sound.

Tests show impressive results

Jamison Sound Reduction Doors will consistently reduce sound by a factor of at least 50 decibels, based on the average results at 25 test frequencies over the range of 129 to 2070 c.p.s. The use of an inner and outer door shown above will almost double the sound reduction factor.

Jamison Sound Reduction Doors are designed to cope with varying levels of sound as well as other existing conditions such as extremes in temperature, humidity or pressure; and are available in sizes to accommodate movement of material or equipment or personnel passage.

If you are faced with a vexing noise problem, why not take advantage of Jamison's wide experience and knowledge. As the first step, write for Bulletin 16-F or look up the Jamison insert in Sweet's Catalog File. Write to Sound Reduction Door Div., Jamison Cold Storage Door Co., Hagerstown, Md., U.S.A.



PERSONNEL DOOR

Jamison Sound Reduction Door in smaller size to accommodate pedestrian traffic.



The INDUSTRIAL WORKER knows



—and he knows at close range—that an accident means serious personal tragedy to the worker as well as financial and production problems to the plant.

It's a fortunate worker who is employed by one of the progressive firms which have taken the practical step that assures utmost safety against slipping accidents . . . by installing ALGRIP . . . the world's only Abrasive Rolled Steel Floor Plate. Oily, wet or greasy—level or on slope—ALGRIP is the floor most foot-safe for the worker . . . safest against skidding for material-handling equipment . . . because ALGRIP's uniformly and deeply embedded abrasive keeps it safe . . . year in, year out.

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A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE



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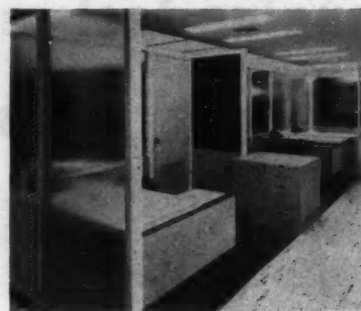


Other products: A.W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates
—Sheets—Strip—(Alloy and Special Grades)

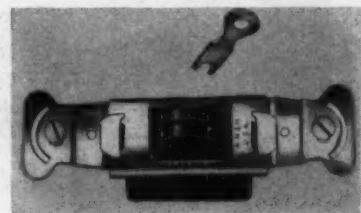
A-E PRODUCTS

(Continued from page 252)

Air Conditioner for homes, stores and small business buildings is known as *Flexi-Cool*. It can be installed remotely with ductwork extended to the conditioning area, or the cooling cycle section alone can be added to an existing furnace. Where water is scarce, the unit can be connected to an air-cooled condenser. It is available in 2-, 3-, 5- and 7½-hp sizes. Dimensions of the 2-, 3- and 5-hp models are 24 in. high by 38 in. wide by 21 in. deep. The 7½-hp dimensions are 39 by 43 by 26 in. *Worthington Corp., Harrison, N. J.*



Steel Prefab Wall. The basic member of *Perspec* is a 2x3 which carries wiring, can be paneled and grows on any module. It is available in four thicknesses: to accommodate glass, a ¾-in. panel, a 2-in. panel and 3 in. flush. It can also be used with *Aetna* steel doors and hardware. *Perspec* was designed to feature custom colors, textures and materials from cork and wood to wallpapers or textured foil. The Olin-Mathieson installation shown above features integrated panel materials. *Aetna Steel Products Corp., 730 Fifth Ave., New York 19, N. Y.*



Lock Switch. The *Interchangeable Quietie Lock Switch* can be turned on and off only with the key provided, so that there can be no tampering with the light switch. It can be used for safe operation of incandescent or fluorescent lights and appliances on 120/277 volts A-C. *The Arrow-Hart & Hegeman Electric Co., Hartford, Conn.*

(Continued on page 264)



THE GLAMOROUS LOOK...



STUDENT UNION BUILDING
N. C. State College
Raleigh, North Carolina
(Front view above — rear below)
ARCHITECTS
Wm. Henley Deitrick —
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with the structural strength that only VAMPCO gives!

The architects for this beautiful new building selected VAMPCO Heavy Section Aluminum Window Walls to obtain the modern lines and substantial construction necessary for this type of building. Through VAMPCO'S wide range of window wall sections, it was possible to supply windows and door frames as integral assemblies. Find out how VAMPCO'S special designing service can help you solve your unusual building problems most efficiently and economically . . . WRITE TODAY!

VALLEY METAL PRODUCTS CO.

PLAINWELL, MICHIGAN

SUBSIDIARY OF MUELLER BRASS CO., PORT HURON, MICHIGAN

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Only 18 Days From Start to Finish! Averaging 3000 sq. ft. per day, workmen spraying 3 coats of acoustical plastic on Cofar completed each floor in only 3 days—the entire job in 18 days!



Handles easily, places fast—Cofar units arrived at the job site conveniently bundled and identified for immediate placing. In 8 days, 5 workmen had placed and welded Cofar into position—ready for concrete pours several days ahead of ordinary forms.



Wood forms eliminated—Because Cofar eliminates bulky, expensive wood forms, limited storage space on the job site was used to maximum advantage. Once installed, Cofar forms a solid, safe, sheltered working deck for all trades.

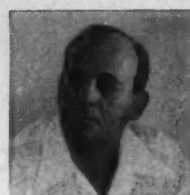


1 floor every 4 days—Fast Cofar construction helped to make up 60% of an 8-week delay. Concrete pours were made in 4 days per floor, more than 50% faster than with ordinary forms. Tight laps between Cofar units kept wet concrete from leaking.



Addition to Yorktowne Hotel, York, Pa.
 Architect: Roy Stiff, St. Louis, Mo.
 Hotel Consultant: J. G. Jackson & Associates,
 St. Louis, Mo.
 Contractor: R. S. Noonan, Inc., York, Pa.

Hotel Consultant—J. G. Jackson says: "Cofar, sprayed with acoustical plastic, cut our ceiling-floor construction cost 42¢ per sq. ft.—an amazing saving! Also, this new kind of ceiling eliminates the possibility of future damage from plumbing leakage."



Job Superintendent—Norman Babner reports: "Our limited working area was not cluttered up because Cofar eliminates wood forms. Clean-up operations were cut because concrete does not leak through tight Cofar units."



Architect—Roy Stiff says: "Thanks to Cofar, we've made a definite saving in time, money and high labor costs. The Cofar and acoustical plastic ceilings offer distinctive beauty and secure the best fire insurance rating obtainable."



Cofar® sprayed with acoustical plastic cuts ceiling-floor construction costs 42¢ per square foot!

Five men install 8 floors of Cofar in 8 days in new York, Pa., hotel addition



Firesafe and beautiful—Acoustical plastic-on-Cofar ceilings eliminate between-floor wasted areas. Exposed to direct flame for over 4 hours without igniting, acoustical plastic sprayed on Cofar rates Underwriter's Laboratories Retardant Report 3413-7.

YORK, PA.—In the 8-story addition to the Yorktowne Hotel, a new kind of ceiling made of Cofar (combined form and reinforcement) sprayed with acoustical plastic has saved almost \$9500 in building costs.

Roy Stiff, architect, reports: "Cofar's attractive corrugated pattern contributes a distinctive architectural effect. By eliminating expensive suspended or conventional plastered ceilings, Cofar, sprayed with acoustical plastic, saves 12" to 18" in wasted ceiling height... saves structural materials by reducing the over-all height of the building."

Says Norman Babner, job superintendent for R. S. Noonan, Inc., York, Pa., contractors: "Cofar cost only 7¢ per sq. ft. to install because the easy-to-handle units are quickly placed and welded. Once installed, Cofar forms an immediate, sheltered work platform for electricians and plumbers. Cofar placement and concrete pours averaged 4 working days per floor. With conven-

tional forms, the same area would take 2 weeks. And, because Cofar requires minimum support, our shoring costs were only 1½¢ per sq. ft.!"

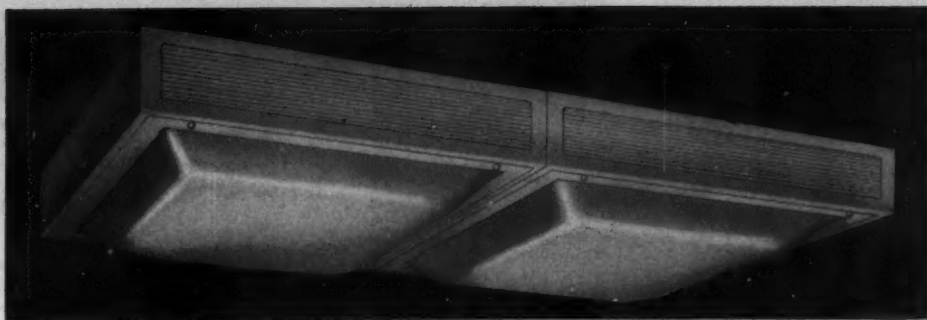
Cofar deep-corrugated steel units save weeks of construction time, provide earlier occupancy, help make your client's building dollars go farther. For information, estimates or costs on your building project, contact home or district office, attention Dept. R-6.

GRANCO® STEEL PRODUCTS CO.

A Subsidiary of
GRANITE CITY STEEL CO.
 6506 N. Broadway
 St. Louis 15, Missouri



Executive Offices: Granite City, Illinois
 DISTRICT OFFICES: St. Louis • Kansas City
 Dallas • Chicago • Minneapolis • Atlanta
 Distributors in 80 principal cities



Cat. No.	Lamps	Ballast	Box Dimensions Width - Length - Depth	Approx. Weight
FL-636	4-40 W	Rapid Start	25" x 49" x 5"	75#

TO ARCHITECTS AND ENGINEERS

who have the light touch

● From our point of view, it is easy to determine whether an architect or engineer has the "light touch".

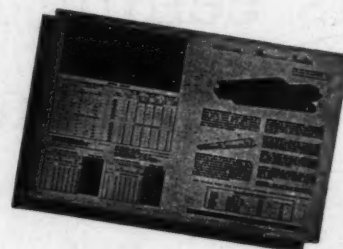
If he has developed a sort of "sixth sense" about the type of lighting he needs on every job he does . . . if he considers lighting one of the most important requirements of every project he works on — then he has the "light touch" — the ability to work with "light" as an artist works with his brush. He can use it to "create special effects" . . . as a "background" . . . as a "basic need" . . . or in many other ways.

To the architect and engineer who have this special feeling for lighting, KAYLINE offers a "tailormade" service. We do not offer you the largest selection on earth, nor the very lowest prices, but we will give you the right fixtures for the purpose because we are craftsmen in the field of lighting fixtures. We know the value of light both to sight . . . and to beauty . . . and we create accordingly.

Our fixtures are designed to meet the highest standards of lighting experts . . . accurately assembled . . . carefully tested at the factory . . . easy to install — to serve the needs of all, who like ourselves, believe in the importance of good lighting.

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EVEN OUR CATALOG IS DIFFERENT



● Kayline's 74-page Catalog No. 55 not only shows the complete line of fluorescent, incandescent and slimline fixtures but gives information and charts on footcandles of light, light patterns, installation suggestions and other important data. Get a copy for yourself AND your specification writer. Send your request today.

← KAYLINE →

THE ONE SOURCE LIGHTING LINE

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2480 EAST 22nd STREET • CLEVELAND 15, OHIO

Manufacturers Since 1895

DEPT. AR

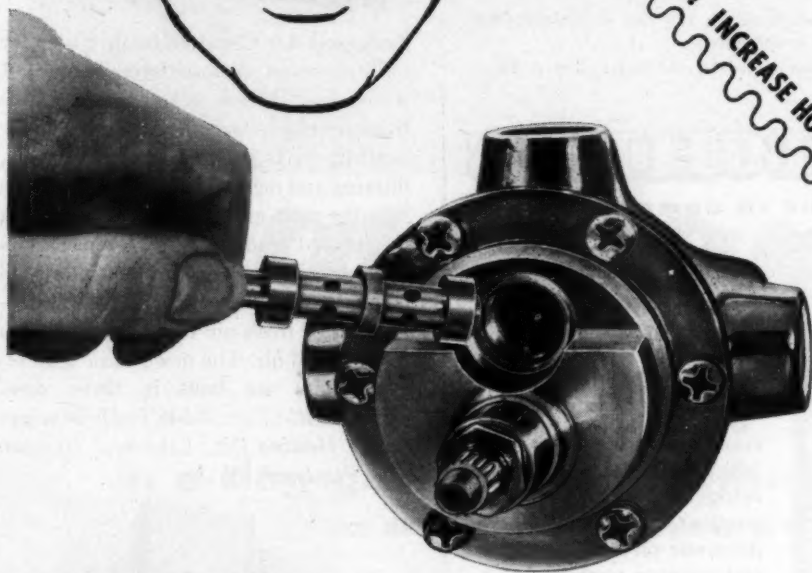
The "Built-In Brain" is a floating piston which automatically compensates for line pressure variations—maintains set mixture of hot and cold water—automatically. No thermostats.

THE SHOWER WITH THE BUILT-IN BRAIN

TOO HOT! INCREASE COLD WATER.

JUST RIGHT! HOLD IT THAT WAY.

SHOWER TOO COLD! INCREASE HOT WATER.



SHOWER



POWDER ROOM



KITCHEN



LAUNDRY

Down the line water-stealing will not disturb shower temperature with the Sentinel Balanced Pressure Mixing Valve on the job.



Model S-1700 — Sentinel Shower with Anystream Shower Head.



SENTINEL

(Patented)

the World's Most Modern Shower

This shower protects you against sudden variations in temperature caused by water-stealing or fluctuations in pressure. Even if the water fails entirely, the Sentinel will immediately shut off the shower. Then automatically restore the flow of the water when the pressure returns.

The Sentinel Shower includes the famous original Anystream (Patented) shower head—the head that permits the bather to select any spray desired from needle to flood.

Ideal for all types of homes and buildings. Write today for Sentinel Circular S-67-C.

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PROFITABLE APARTMENTS



**Rescued from
oblivion by smart
remodeling**



*from Old
Tax-Eaters*

Overrun by weeds and seemingly destined for wrecking to save taxes, this 190-year old Toledo, Ohio mansion was remodeled to income status by the Blair Realty & Investment Co. Addition of graceful lacy iron grillwork, repainting in fresh green and white, and landscaping combined to restore charm to the exterior.

DWYER KITCHENS

COMPLETE KITCHEN CONVENIENCE IN COMPACT SPACE



The interior was remodeled to make apartments with kitchen-dining areas like this...apartments quickly rented. Each has a Dwyer Kitchen...concealed by louvered doors when not in use.



**4 SIZES ...
39 to 69 in. wide**

**Genuine vitreous porcelain
on all exposed surfaces
... easy to clean**

Gas or electric ranges (AGA and Underwriters approved), refrigerator with freezer compartment and push-button door, one-piece sink and work top, storage cupboards ... streamlined into compact units 39 to 69 inches wide.

One-piece range top, sink and counter area has no cracks or crevice to harbor dirt.

Dwyer Kitchens are made complete in our own plant... by an organization specializing in compact kitchens for over 26 years. Thousands of installations ... nation-wide ... have proven their durability in the hard usage of rental properties.

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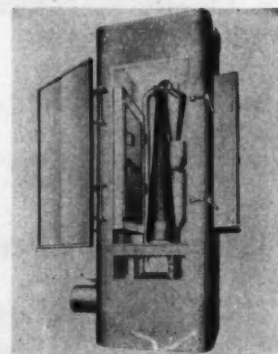
A-E PRODUCTS

(Continued from page 258)

Perspective Drawing Rule. *Perspect-O-Rule* is a clear plastic straight-edge on which are printed accurate, pre-calculated perspective measurements and pre-determined locations of vanishing points. Unlimited variations of two-point perspectives can be drawn in less than half the usual time, says the manufacturer. Three sizes are available: Models 50, 100 and 200 for making drawings up to 15, 17 and 26 in. wide, respectively. Canlen Co., 1239 Monroe Ave., Wyomissing, Pa.



Recessed Air Conditioning Units for multiple-room installations where hot water and chilled water are available from a remote source are designed for heating, cooling, ventilating, circulating, filtering and dehumidifying. Air is drawn into the unit at floor level, mixed with the desired amount of fresh air and delivered back to the room at window-sill level. Dampers are provided for introduction of fresh air to be blended with recirculated air. The new *Fedair* remote-type units are built in three sizes. Bulletin HC-C3 available. *Fedders-Quigan Corp., Heating Div., Loral and Hancock Sts., Trenton 7, N. J.*



Dust Control. A packaged *Aerodyne* unit for use in industrial plants where dust control and removal are necessary is classed as the Type G.W.F. *Aerodyne*. The *Aerodyne* louvered cone removes coarser and medium particles from the air or gas. One or more fiber filter packs remove the submicron particles and many of the undesirable condensable elements. It is available in capacities ranging from 1000 to 10,000 cfm free air. Power requirements range from 1½ to 15 hp, with the motor assembled with the unit. *The Green Fuel Economizer Co., Beacon, N. Y.*

New Johns-Manville roof specification



Aquadam Built-Up Roofs

in a slag-gravel or a smooth-surface specification

(for deck inclines from dead level to $\frac{1}{2}$ " per foot)

This Aquadam Asbestos Smooth-Surface built-up roof—like its companion product, the slag- or gravel-surfaced Aquadam roof—offers the extra protection of new, high-bond-strength Aquadam.

Johns-Manville Aquadam built-up roofs have been specifically developed to give the best possible protection to a building. Before publicly announcing Aquadam roofs, Johns-Manville has thoroughly tested the specifications in the field over a period of years.

Aquadam built-up roofs—in slag or gravel, or smooth-surface specification—owe their superiority to Aquadam—the bituminous asphalt cementing agent devel-

oped exclusively by Johns-Manville for use in the application of the roofing felts.

Accelerated weathering tests have proved Aquadam to be nearly twice as resistant to excessive exposure as other bitumens. In standard ductility tests Aquadam proves its greater resistance to cracking, by exhibiting more than 100% greater ductility than other bitumens. In addition, Aquadam offers improved self-healing prop-

erties, stronger bond, greater resistance to water, excellent uniformity—PLUS important installation advantages such as greater kettle stability.

For information about Aquadam Built-Up roofs, see your Approved Johns-Manville Contractor. He's listed in the classified telephone directory. Or write Johns-Manville, Box 158, New York 16, N. Y. In Canada: 565 Lakeshore Road East, Port Credit, Ontario.

See "MEET THE PRESS" on NBC-TV
sponsored on alternate Sundays by Johns-Manville



Johns-Manville

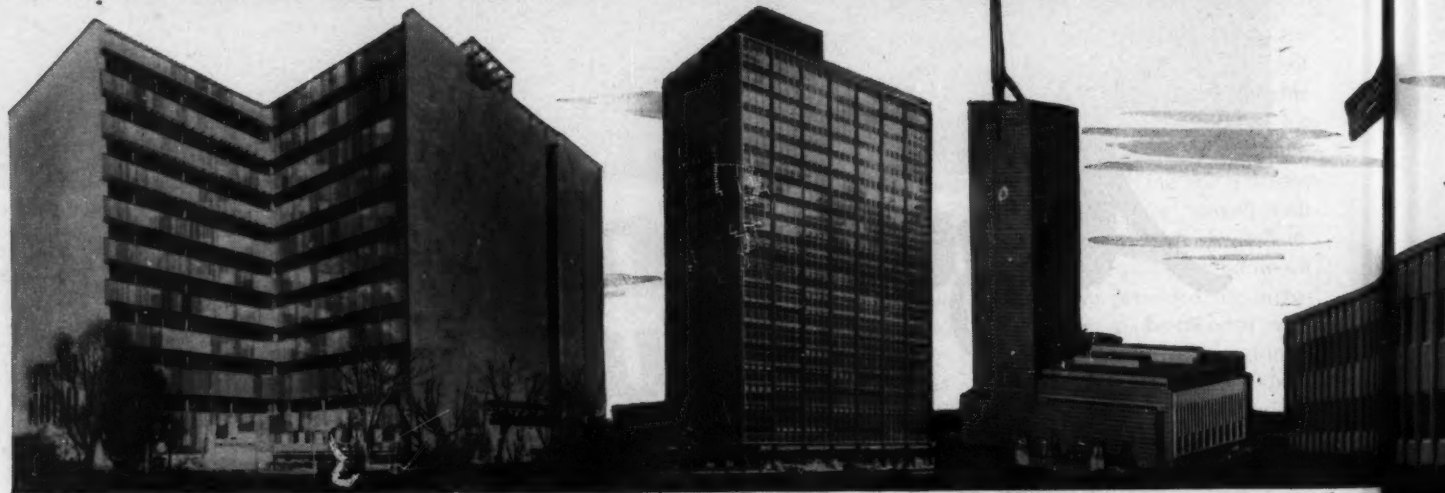


Davies Building, New York City
Architect: Emory Roth & Sons

York Laboratory, York, Pa.
Architect: Buchart Engineering Corp.

Pennsylvania State Office Building, Pittsburgh, Pa.
Architect: Altonhof & Bown

These buildings and hundreds like them cost less,



Mayo Clinic (Diagnostic Building), Rochester, Minn.
Architect: Ellerbe & Co.

Henry C. Beck Building, Shreveport, La.
Architect: Neild-Somdal Associates

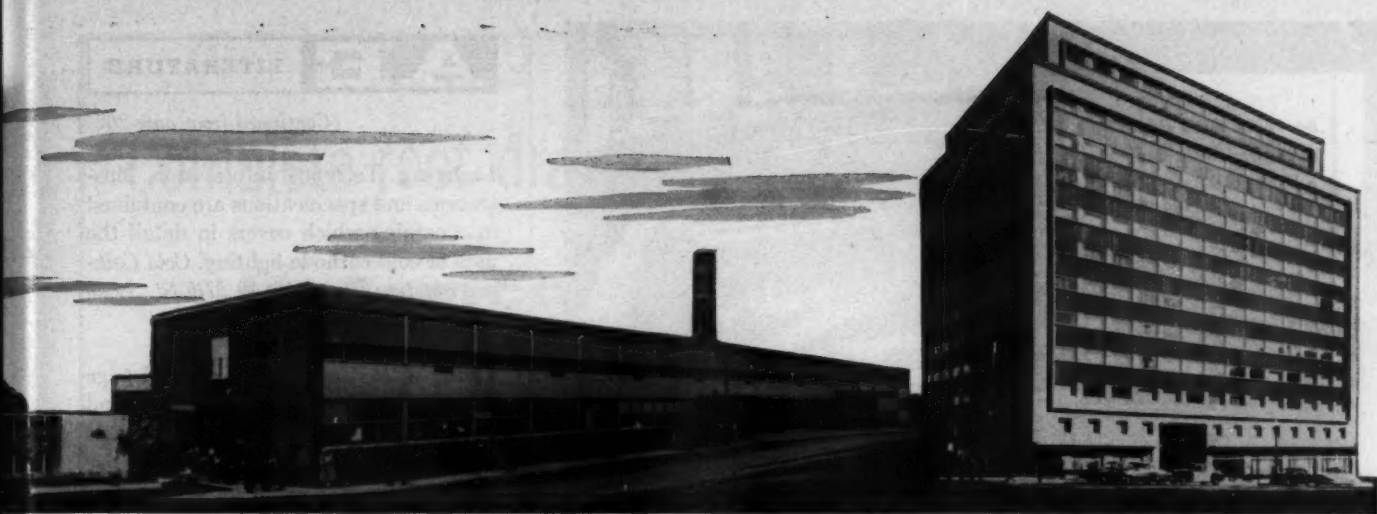
Republic National Bank Building, Dallas, Texas
Architects: Harrison & Abramovitz

less maintenance because they are constructed



Missouri State Office Building, Jefferson City, Mo.
Architect: Marcel Boulicault

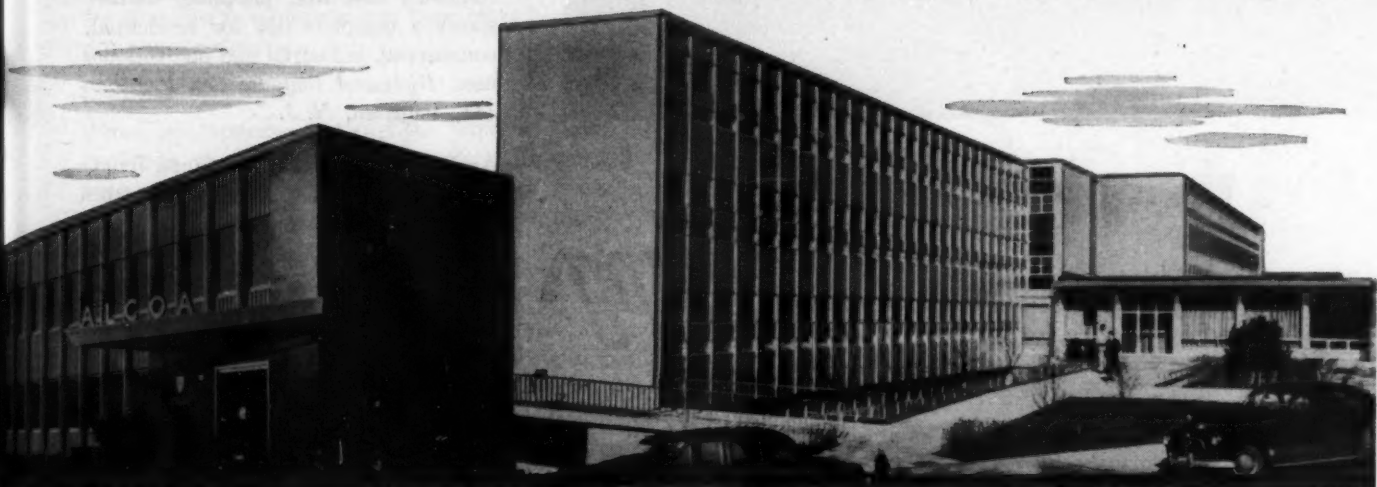
Prudential Building, Chicago, Ill.
Architect: Haess & Murphy



Fort Couch School, Allegheny County, Pa.
Architect: Dutton & McLean

Wyatt Building, Washington, D. C.
Architect: A. R. Clas

were erected faster, occupied earlier, and require

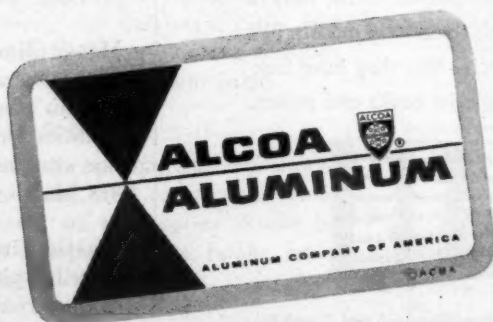


Alcoa Sales Office, Cincinnati, Ohio
Architect: Schell & Knabe

Carnegie Tech Donner Hall Dormitory, Pittsburgh, Pa.
Architect: Mitchell & Ritchey

largely of Alcoa® Aluminum

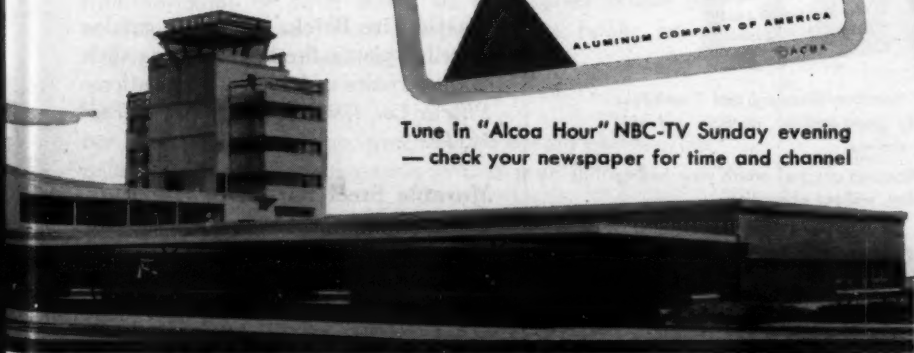
Your Guide to
Aluminum Value



Tune in "Alcoa Hour" NBC-TV Sunday evening
— check your newspaper for time and channel



Details of these and other buildings where architects have exploited the outstanding advantages of aluminum are available on request. Write for your copy of *Alcoa Architectural Achievements* and see how aluminum has progressed from ornamentation and minor applications to its full stature as a primary structural material. Aluminum Company of America, 1888-M Alcoa Bldg., Pittsburgh 19, Pa.



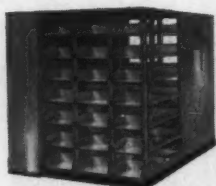
General Mitchell Field Airport Terminal, Milwaukee, Wis.
Architect: Milwaukee County Architect's Office



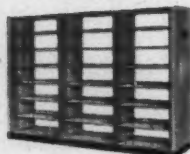
Give them more books in the same space...with **COMPO**

When a library remodeling assignment calls for 1) greater book capacity, 2) more spacious and inviting book area, and 3) no additional floor space—Hamilton Compo sliding-shelf stacks are the only answer. They actually open up the book area, while accommodating twice the books in the same shelf space.

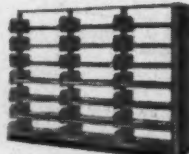
Compo stacks also get a new library off to the right start, by anticipating future circulation needs. They're handsome stacks too, all-steel, completely modern and functional. And you can specify that they have lock-equipped compartments for special books and papers.



CONTINUOUS
UPRIGHT



HAMILTON-
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Also available are popular Hamilton-Standard and Continuous Upright steel stacks—equally good-looking, durable and efficient, with easily adjustable shelves.

Complete details and specifications are well worth your having on tap. Write for them today, without obligation.



HAMILTON MANUFACTURING COMPANY • Two Rivers, Wisconsin

A-E LITERATURE

(Continued from page 202)

Lighting. Technical information, illustrations and specifications are contained in a catalog which covers in detail the uses of cold cathode lighting. *Cold Cathode Lighting Corp., 42-40 27th St., Long Island City, N. Y.*

Thin Wall Construction. A 4-page folder, AIA No. 4-E-13, describes and illustrates the use of thin wall sections to cut construction costs and to increase usable floor space. *Zonolite Co., 135 S. La Salle St., Chicago 3, Ill.**

Plumbing Fixtures. A 32-page illustrated catalog on vitreous china and enameled cast iron plumbing fixtures shows a complete line for residential, commercial, industrial and institutional uses. *Richmond Radiator Co., P.O. Box 111, Metuchen, N. J.*

Architectural Metal Products. In addition to installation photographs, this handbook shows scale-size construction details of architectural metal work. *The Reliance Metal Co., 593-601 W. McMicken Ave., Cincinnati 14, Ohio.*

Swimming Pools. An 8-page bulletin gives complete swimming pool construction details as well as ceramic tile specifications for pools and surrounding areas. *The Mosaic Tile Co., Zanesville, Ohio.*

Decorative Tile. Illustrations of decorative applications of ceramic tile are included in a 4-page folder which also shows available colors. *Agency Tile Supply Corp., 336 E. 33rd St., New York 16.*

Motor Banking. A 154-page, illustrated management study shows how to plan efficient drive-up and walk-up facilities for typical building and location situations. *Diebold Inc., Bank Div., 818 Mulberry Rd., Canton 2, Ohio.*

Plastic Fire Brick. An 8-page catalog describes plastic fire bricks, giving their characteristics and typical applications. *Plibrico Co., 1800 Kingsbury St., Chicago 14, Ill.*

Movable Steel Partitions. *Flexibility in the Co-ordinated Classroom* is the title of a 30-page booklet, illustrated with line drawings, describing movable steel partitions designed expressly for school applications. *The E. F. Hauserman Co., 6800 Grant Ave., Cleveland 5, Ohio.**

(Continued on page 272)

Complete roof drainage systems now available in Armco Stainless Steel

Lifetime Investment

When properly installed, roof drainage systems made of Armco Stainless Steel should last as long as the building. Yet first cost is generally less than other high quality roof drainage products.

Highest Strength

When you specify Armco 17-7 Stainless Steel for roof drainage you get the strongest metal used for this purpose. Gutters withstand heavy loads of ice and snow without sagging—resist buckling and cracking due to extreme temperature changes.

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The soft, subdued finish of Armco Stainless Steel for roof drainage harmonizes well with any other building material or color scheme.

No Patina to Stain

There is neither rust nor patina to wash off on painted woodwork or masonry in completely stainless steel roof drainage systems. This means fewer repainting and cleaning jobs, much lower upkeep costs.

Easy to Install

Any good sheet metal man can install standard Armco Stainless Steel valley, guttering and conductor pipe. Flat strip is readily available for fabrication into special designs. Parts solder readily, producing strong clean joints.

Flashing and Accessories too

In a stainless steel roof drainage system, flashing should be made of stainless steel strip, and to prevent stains from corrosion of other metal, all accessories should be of stainless steel too. These include hangers, hooks, nails, rivets, screws, cleats and bolts.

Use the Coupon

For complete information, specification details and sources of supply, just fill out the coupon and mail it to us.



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Send me your A.I.A. folder, "Stainless Steel Roof Drainage" ☐
Give me names of the nearest suppliers of Armco Stainless Steel roof drainage items ☐

Name: _____

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Street: _____

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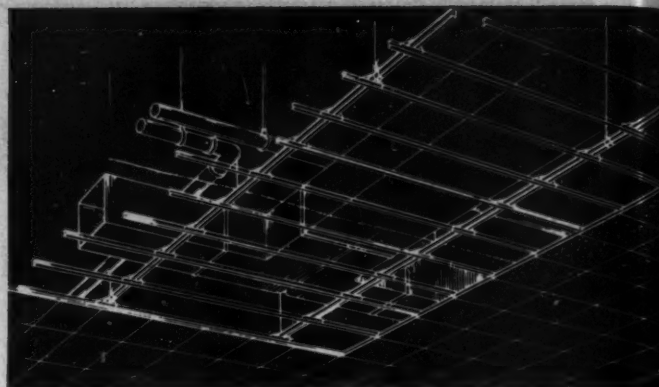
ARMCO STEEL CORPORATION 1635 CURTIS ST., MIDDLETOWN, OHIO
SPECIAL STEELS

SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

problem: Lower ceiling to conceal air conditioning ducts

solution: ACOUSTONE* mineral acoustical tile installed with the concealed Z-Spline System

Mechanical suspension of the ACOUSTONE tiles is accomplished by engaging kerfs of tile with lower flange of Z-Splines, attached to carrying channels, bar joists, or wood furring or framing members. This provides a new, lower ceiling level with space above for air conditioning ducts.

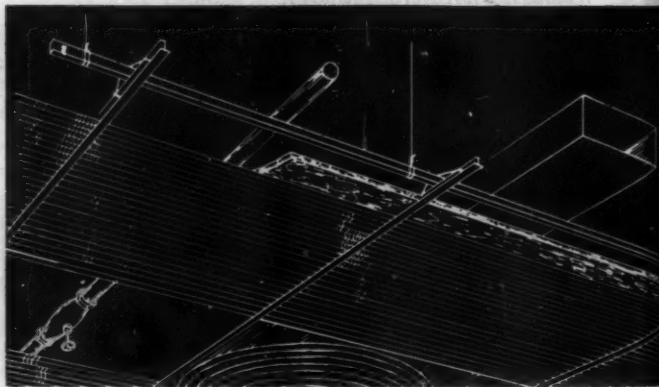


How you can solve your

problem: Conceal above-ceiling services, but provide easy accessibility for maintenance

solution: CORRUTONE installed with the E-Z-S System

The E-Z-S System for mechanical suspension of CORRUTONE or ACOUSTONE is installed by simply attaching exposed painted Z-Splines to 1½" carrying channels, bar joists or wood furring or framing members. CORRUTONE panel, which holds a sound-absorbent mineral wool pad, is then placed on lower flange of the spline. Panels lift out readily for easy access to services above.



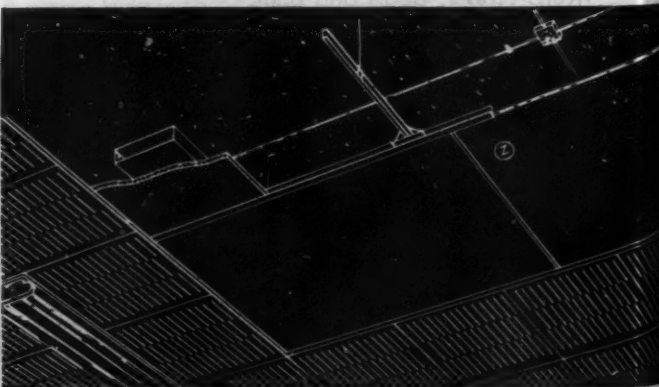
Sound control is a job for experts!

For complete drafting room details and assistance in planning, contact your nearby ACOUSTONE contractor. Also see Sweet's file 10a/Uni or write United States Gypsum, 300 West Adams Street, Dept. AR-4, Chicago 6, Illinois.

problem: Provide an economical school ceiling that's sound-resistant and fire-safe

solution: Slotted AUDITONE* adhered to Z-Board, suspended from bar joists

Mechanical suspension of fire-resistant gypsum Z-Board on Z-Splines is an economical method of providing a base for adhesive installation of Slotted AUDITONE fiber acoustical tile, available with flame-resistant coating. The ½" x 2' x 8' Z-Board is placed on top of the lower flange of the Z-Spline, providing a smooth, level surface.



*T. M. Reg. U. S. Pat. Off.

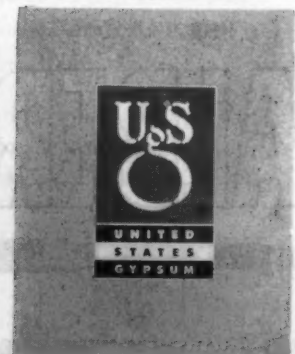


ceiling problems quietly!



UNITED STATES GYPSUM

The greatest name in building





Let's talk "SILLS and STOOLS"

—that are both durable and attractive.

Alberene Stone—the natural silicate stone—is weatherproof. Its low absorbency prevents spalling and splitting in freezing temperatures. Its all-silicate mineral components resist chemical attack, staining and loss of surface polish. It requires no maintenance.

Alberene Stone is supplied in two grades: *Regular grade* is medium hard, durable and economical. It has high chemical, weather resistance. And a pleasing bluish gray color. *Serpentine grade* is very hard with even higher resistance and durability. It takes a high hone finish that is bluish black; also a polished finish that is jet black. Since there is a substantial difference between the two grades, it is important that the proper grade be clearly stated in the specifications.

That's why Alberene Stone window stools have recently been shipped to many of the finest new hospitals in the country including: Providence Hospital, Washington, D. C.; Baptist Memorial Hospital, Memphis, Tenn.; Coney Island Hospital, New York; and the Grady Hospital, Atlanta, Ga.

For information and technical assistance, address: Alberene Stone Corporation, 419 Fourth Avenue, New York 16, N. Y.

ALBERENE STONE

provides LOW ABSORBENCY protection

A-E LITERATURE

(Continued from page 268)

Steel Parking Decks. *Parking in the Air with Structural Steel* contains illustrations and descriptions of steel framed parking structures and gives a brief technical section to aid in the planning and designing of parking decks. The American Institute of Steel Construction, 101 Park Ave., New York 17.*

Warm-Air Floor Panel Heating. A 22-page booklet illustrated with detail drawings, discusses the principles of warm air floor panel heating with a general description of the application to hollow masonry floors. Nat'l Concrete Masonry Assoc., 38 S. Dearborn St., Chicago 3, Ill.*

Plumbing Specifications. A simplified system of plumbing specification sheets provides a check list of all individual items selected. Briggs Mfg. Co., 300 Buhl Bldg., Detroit 26, Mich.

Wood Preservatives. The sixth of a series of bulletins offers information on wood preservatives and fire retardant treatments in a 4-page folder. Southern Pine Assoc., Nat'l Bank of Commerce Bldg., P.O. Box 1170, New Orleans 14, La.

Ice-Skating Rinks — Their Construction and Maintenance is the title of a special 32-page report which includes discussions of corrosion, types of rink construction, comparative service record data, case history digests of rink installations, recommended maintenance procedures, brine tables and a listing of helpful technical bulletins. Engineering Service Dept., A. M. Byers Co., Pittsburgh 22, Pa.*

Reflective Insulation. Photographs and diagrammatic sketches illustrating the installation of reflective insulation and moisture barriers in walls and ceilings and under floors are contained in a 6-page folder from Angier Corp., Framingham, Mass.*

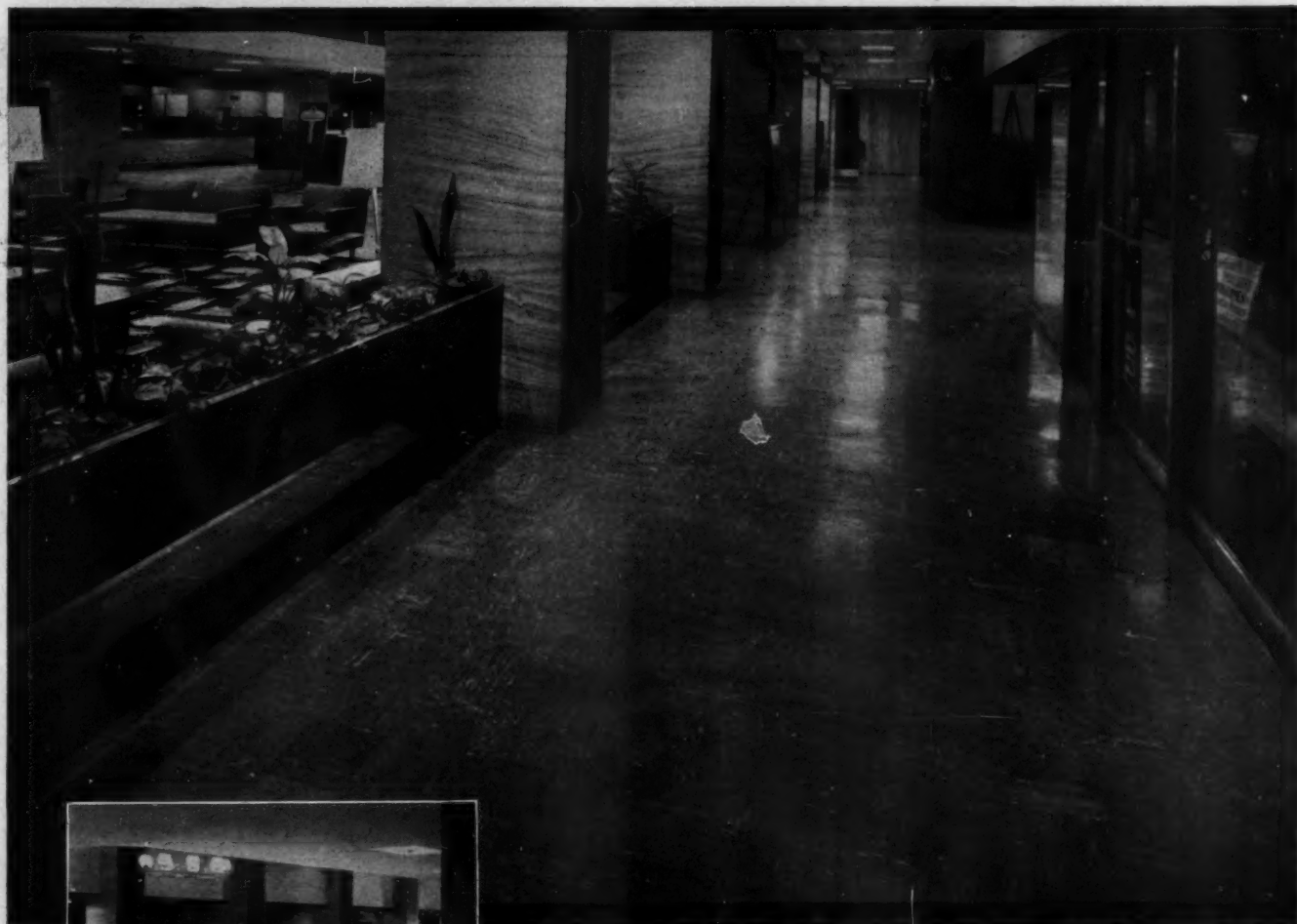
Building Products. Technical Bulletin No. 73 is a special school issue published by The Producers' Council, Inc., 1001 15th St., N.W., Washington 5, D. C.

Sprayed-on Vinyl Plastic Sheetting. Various applications of *Plastispray*, with descriptions and technical data, are shown in a 4-page bulletin from Liquid Plastics Corp., 50-02 23rd St., Long Island City 1, N. Y.

(Continued on page 276)



Luxurious...
and Economical!



THE JEFFERSON, ST. LOUIS, MO. — A HILTON HOTEL



Today's interior furnishings are more beautiful and serviceable than ever before . . . a trend calling for floor tile with similar characteristics.

Assure your clients of flooring that is beautiful, easy to clean and durable - specify B. F. Goodrich Rubber Floor Tile.

B. F. Goodrich Rubber Floor Tile has *Super Density*, an exclusive feature that provides a smoother surface, eliminates dirt-catching pores, makes floors easier to clean and keep clean. Its *Natural Resiliency* assures quiet comfort underfoot. And it is made in 26 modern colors that blend with any decor.

For color chart and more information, write:
B. F. Goodrich Co., Flooring Division,
Dept. AR12, Watertown 72, Mass.



RUBBER TILE • ASPHALT TILE • KOROSEAL TILE • RUBBER COVE BASE • ACCESSORIES

Engineer and Contractor tell in their own words how they rate G.E.'s new motor control center

**"Nothing in the field could equal this equipment," says plant engineer Henry Roth
—"Our job greatly simplified," asserts electrical contractor A. G. Crunkleton.**



"At the North American Cement Company," says Henry Roth, "we recently replaced some G-E switchgear after 28 years of continuous operation. Having learned to expect this remarkably dependable kind of service from General Electric equipment, we replaced with G.E.'s Type DA7093 Motor Control Center that you see here. Heavy-duty limestone pulverizing like we are doing here at Hagerstown, (Md.) demands equipment that's durable and easily maintained. We can't tolerate even an hour of lost

time in our around-the-clock operation, 365 days a year. That's one reason we chose the DA7093. In addition, this G-E design has built-in flexibility. For example, units can be interchanged to accommodate larger motors, and whole sections can be added to handle increased loads. Our new G-E Motor Control Center gives us the reserve capacity and unusual flexibility we'll need to keep pace with the growing and shifting requirements of our plant."

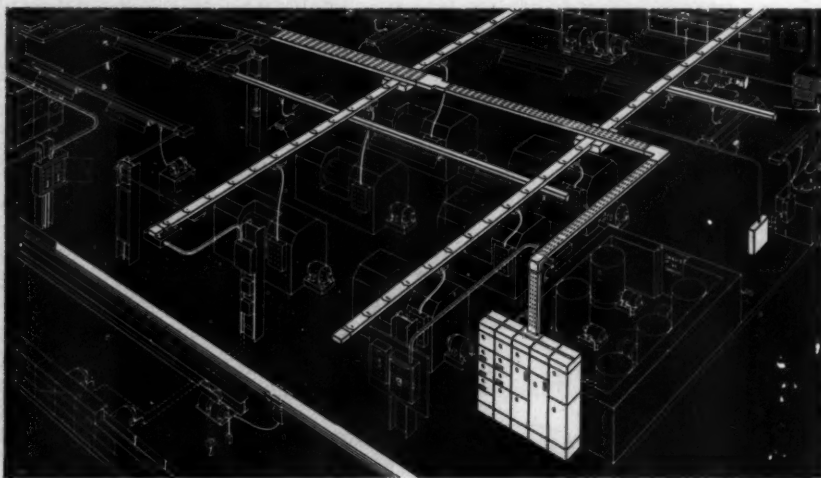


A system to meet both present and anticipated power loads. "Our job was to design and install a system that could withstand their rugged operating conditions and provide flexibility to meet increased future loads," says A. G. Crunkleton, president of Crunkleton Electric Company, Greencastle, Pa. "The General Electric DA7093 Control Center met those requirements and offers maximum protection to motors and circuits in the event of overloads or shorts. Our job has been greatly simplified and improved because, for one thing, the G-E Control Centers are designed for specific customer demands. The guesswork is eliminated. We work very closely with the G-E people, and they factory-fabricate the equipment to my customers' specifications. When I receive it, it's ready for quick and easy installation."



Shutdowns for maintenance practically eliminated. "Our maintenance electricians," says Mr. Roth, "were particularly impressed. Our inherent dusty working conditions have always led to high maintenance on open-type gear, but this situation has now been entirely eliminated because all working parts of the G-E Control Center are sealed off. After conferences with Crunkleton Electric Co. engineers, we all agreed that the G-E Control Center was the best in our particular situation. Nothing in the field could equal these units for day-in, day-out heavy-duty usage like ours." **Engineered for maximum safety.** "The DA7093 has already saved the life of one of our men," says Mr. Roth. Mr. Roth adds, "Since all breakers, relays and starters are within the cabinet, workers can't accidentally get into the wrong circuit. In addition, pilot lights and reset buttons are in open view on each door. And two further advantages are that the padlocked-type handle must be in the 'off' position before the door can be opened, and positive isolation is provided between one section and the others."

The Type DA7093 Motor Control Center (shown in layout) is an integral part of G.E.'s secondary distribution system, which also includes switchboards, busway, unit substations and panelboards. This "system engineered" equipment gives user and contractor seven *work-together* advantages—
 1. *True extendability* because G-E standardized components are especially designed for easy addition or relocation. 2. *Easy-to-assemble.* 3. *No loss when moving.* "System Engineering" provides for practically 100% re-use of materials. 4. *Complete relocation of loads* without rewiring. 5. *Maximum electrical efficiency* from components designed to work together. 6. *One source of supply* for all components. 7. *Skilled planning service* from the G-E Engineer who is selling not just components but "System Engineered" equipment to assure installations with a built-in future. **Distribution Assemblies Department, Plainville, Conn.**



Progress Is Our Most Important Product

GENERAL  ELECTRIC

MEMO

TO: SPEC. Writers

SUBJECT: Interior Fire-Protection

Don't let the traditional stability of this field fool you. Current catalogs and supplement to A.I.A. file 29e2 show several new developments by Allenco.

Job supervisors report Allenco reliable delivery and faster-installation speed work. Also, clients are becoming more familiar with this field.

Suggest you check with local Allenco office or send for current ads.

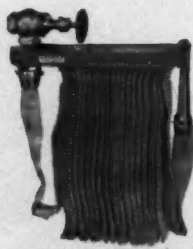


Allenco Fire Line
Hose Unit

Allenco
Siamese Fire Department
Connection



Allenco Fire Line
Fog Nozzle



Allenco
Improved, Welded
Linen Hose Rack

ALLENCO

Established 1887

W. D. ALLEN MANUFACTURING CO.

700 Allenco Bldg.

566 West Lake Street

Chicago 6

25 Sales Offices

New York 7

AIE LITERATURE

(Continued from page 272)

Flush Sectional Garage Doors are described, with specifications and installation chart, in a 6-page illustrated brochure from *Graham Industries, Inc.*, 6901 Carnegie Ave., Cleveland 3.

Boilers-Burners. The packaged and standard models of both oil- and gas-fired boiler-burners and oil and gas burners are described in bulletins from *Mt. Hawley Mfg. Co.*, Peoria 4, Ill.

Steel Decking. Lightweight, fire-resistant, ribbed steel sections adaptable for roofs, sidewalls, sub-flooring, partitions, etc., are discussed in a 4-page, illustrated technical bulletin from the *American Steel Band Co.*, P. O. Box 565, Pittsburgh 30, Pa.*

Structural Building Specialties. Sizes, weights and allowable loads for joist hangers, joist anchors, tie straps, framing anchors, clevises, split rings, and similar items are shown in an 8-page illustrated catalog, *AIA File 14-J*, Arch Rib Truss Corp., P. O. Box 6742, Los Angeles 22, Calif.

Cellular Glass Insulation. *Foamglas*, the Cellular Slay-dry Insulation for Piping and Equipment presents the physical properties of this insulation, sizes and shapes available and suggested thicknesses for temperatures ranging from -50 to 800 F. 8 pp., illus. *Pittsburgh Corning Corp.*, 1 Gateway Center, Pittsburgh 22, Pa.*

Reinforced Built-up Roofs is a 32-page booklet which describes in detail the various application techniques for *Fiberglas Perma-Ply No. 6*, a porous mat of strong glass fibers used to reinforce bitumen on roofs. *AIA File 12-B-1*. *Owens-Corning Fiberglas Corp.*, Toledo 1, Ohio.*

Concrete Slab Floors and Roofs. Application photographs and pertinent data on *Rapidex*, a lightweight concrete sectional slab system for floors and roofs, have been released in a revised 8-page catalog by *Rapidex Corp.*, 1100 East 52nd St., Indianapolis 5, Ind.

Basement and Utility Windows, screens, storms and lintels are described in an 8-page folder which also contains information about new 12-gauge steel forms for installing *Fenestra* basement windows in poured concrete walls. *Detroit Steel Products Co.*, 3113 Griffin St., Detroit 11, Mich.*

BENSON'S *experience in the
fabrication of metals to minute tolerances goes back
almost 50 years. We offer one source, one responsibility in the supply of*
complete metal wall systems

including panels, mullions, spandrels—of aluminum or
stainless steel—and extruded aluminum windows, doors, entrances.

We are one of a few with substantial
press capacity in the home plant, for forming and
deep drawing of large metal wall panels in a wide range
of stamped geometric designs.

Benson Engineering and Planning
Service works closely with the architect to develop or
adapt designs and solve design problems.
We invite you to write our Architectural Division.

THIS DRAMATIC NEW BUILDING which will house IBM's Kansas City District
offices, incorporates Benson-designed and Benson-fabricated stamped aluminum
wall panels, mullions and windows. Windows are in-swinging for cleaning on
both sides from interior.

Architects: WM. B. FULLERTON, Jr., and EARL C. McCAMIS, Associate
Kansas City, Missouri



Built for:
MAX PHILLIPSON—
PETER F. PASBJERG & CO., INC.
Principal Occupant:
IBM CORPORATION

SINCE 1907

Architectural Division **BENSON** MANUFACTURING CO.

18TH & AGNES • KANSAS CITY, MISSOURI
LOS ANGELES • NEW YORK



BILT-WELL Cabinets, naturally finished, provide a beautiful, functional, easy-to-maintain kitchen. BILT-WELL Casement windows admit an abundance of natural light and ventilation.

Both BILT-WELL Awning and Double-Hung Window Units are used throughout the convent permitting maximum light and year 'round ventilation.



BILT-WELL Wardrobe Units fit neatly into the corner of a bedroom providing attractive, convenient wardrobe closet.



BILT-WELL wood products *...lend an atmosphere of simple beauty to Midwest Convent...*

**of Holy Trinity Sisters, Order of St. Francis
in Dubuque, Iowa**

The enduring beauty and functional design that has made BILT-WELL Windows and Cabinets the popular choice of Builders everywhere also suits them perfectly for churches, schools, hospitals and other institutional buildings where the combined features of appearance, durability and economy are required.

Manufactured from clear Ponderosa Pine, BILT-WELL Double-hung, Awning and Casement windows provide maximum weathertightness with resultant savings in fuel. And they operate

smoothly and efficiently as the result of the latest window engineering research and modern production methods.

BILT-WELL Multiple-purpose wood cabinets, in use in thousands of American homes, are also ideally suited for institutional use. Made from clear Ponderosa Pine, standardized in sectional units from 15" to 42", they are precisely machined, accurately prefitted, semi-assembled and carton packed, ready for quick, easy, on-the-job assembly and installation.

89 YEARS OF WOODWORKING EXPERIENCE

Carr, Adams & Collier Company, Manufacturers of . . . BILT-WELL WINDOW UNITS—Awning, Double-Hung, Casement, Basement, Storm and Screen, Gable, Sash & Louvers . . . BILT-WELL CABINET UNITS—Kitchen, Wardrobe, Multi-Purpose, Corner China, Mantels . . . BILT-WELL DOORS—Interior, Exterior, Combination, Garage, Screen, Flush, Entrances.

Look for the BILT-WELL trademark whenever you specify windows, doors, shutters, entrances, cabinets or any other millwork. It's your guarantee of quality and dependability. For information, write

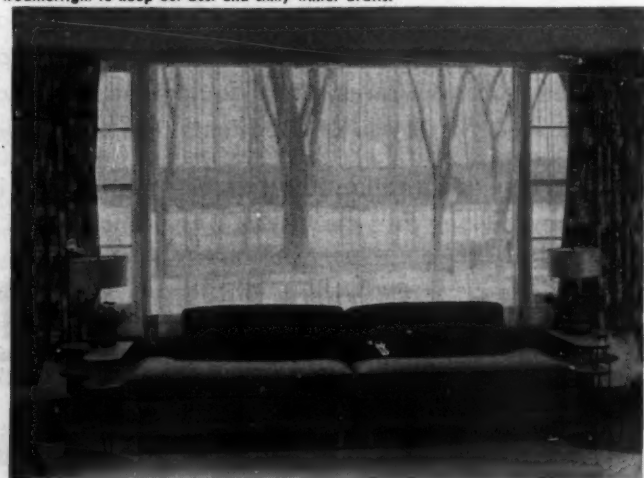
BILT-WELL WOODWORK

Manufactured by **CARR, ADAMS & COLLIER COMPANY**
Box 658 • Dubuque, Iowa

Combination of BILT-WELL Cabinet Units forms attractive sideboard for convent's dining room.



BILT-WELL Picture Window Unit, flanked by BILT-WELL Double-hung Windows, forms attractive living room arrangement that permits full view, light and ventilation yet is highly weathertight to keep out dust and chilly winter drafts.



THE RECORD REPORTS

ON THE CALENDAR

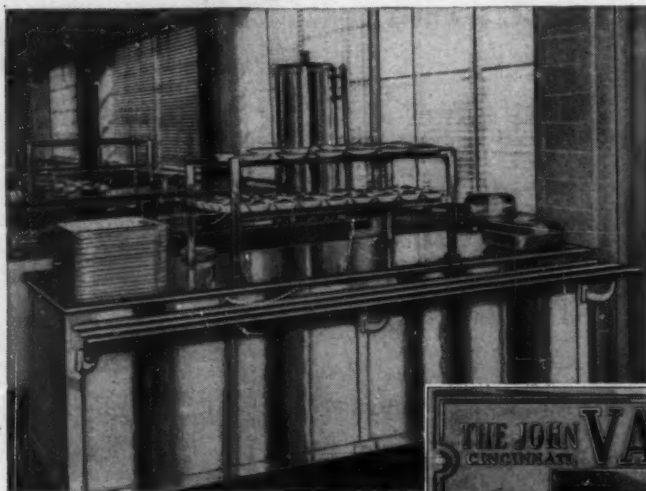
December

- 1-3 The 51st annual meeting, American Society of Refrigerating Engineers — Traymore Hotel, Atlantic City, N. J.
6-7 Annual meeting, National Committee on the Aging, National Social Welfare Assembly — Barbizon-Plaza Hotel, New York

- 7-8 Design for Environment: Floor-Ceilings and Service Systems for Multistoried Buildings; a research correlation conference sponsored by the Building Research Institute — Washington, D. C.
10-16 International Atomic Exposition — Public Auditorium, Cleveland
12-17 Nuclear Congress, sponsored by

General Committee on Nuclear Engineering and Science of the Engineers Joint Council — Cleveland

- 15-16 Ninth Canadian Soil Mechanics Conference, sponsored by the Associated Committee on Soil and Snow Mechanics of the National Research Council — University of British Columbia, Vancouver, B. C.



EMPLOYEES' CAFETERIA
NEW UNIT B
HOPMONT
SANITARIUM
HOPMONT,
WEST VIRGINIA

Architect • Edward J. Wood & Son • Clarksburg



Van equips *third* kitchen at Hopemont Sanitarium

★ Van has earned an enviable record of satisfaction with its food service equipment. Reorders from institutions 10, 20, 30 . . . even 50 years after its first installation underline that satisfaction. Hopemont Sanitarium is no exception.

★ Above is illustrated the Van-equipped employees' cafeteria in the new Unit B completed late in 1954. All Hopemont Sanitarium buildings have Van kitchen equipment. It is capable of serving three meals a day to 600 patients and employees.

★ When you require food service equipment improvements, get the benefit of Van's century of experience.

The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

Branches in Principal Cities

429 CULVERT STREET

CINCINNATI 2, OHIO

1956

January

- 16-17 Public Works Conference, sponsored by the American Institute of Architects — The Octagon, Washington, D. C.
20-21 Annual meeting, Virginia Chapter, American Institute of Architects, — Jefferson Hotel, Richmond
22-26 Annual convention and exposition, National Association of Home Builders — Chicago Coliseum, Conrad Hilton and Sherman Hotels, Chicago
23-25 Annual meeting, American Society of Heating and Air Conditioning Engineers — Sheraton-Gibson Hotel, Cincinnati
30ff Winter General Meeting, American Institute of Electrical Engineers; until Feb. 3 — Hotel Statler, New York City

February

- 13-16 Annual convention, Associated General Contractors of America, Inc. — Waldorf Astoria Hotel, New York City
13-17 Dallas convention, American Society of Civil Engineers — Hotel Baker, Dallas
13-18 Symposium on winter concreting, sponsored by the Danish National Institute of Building Research — Copenhagen, Denmark. Further details: The Organizing Secretary, RILEM Symposium 1956, c/o Danish National Institute of Building Research, 20 Borgergade, Copenhagen K, Denmark
18-23 Annual convention, American Association of School Administrators — Atlantic City, N. J.

OFFICE NOTES

Offices Opened

- Gordon Bohannon Galusha, Architect, has announced the establishment of of-

(Continued on page 284)



Lifetime roof assured with Styrofoam insulation



The R. D. Whitney residence has a beam ceiling that requires insulation to be applied on the roof deck. Light, easily applied Styrofoam was a natural choice. Its low "K" factor assures lasting insulation efficiency . . . its resistance to water offers lifetime roof insulation. Architect: Wiley & Miller. Building Contractor: Henry Knuck.

STYROFOAM insulation chosen by architect of new Elkhart, Indiana, home provides high insulating efficiency, prevents blistering and subsequent leaking . . . eliminates future replacement costs

It's easy to see why more and more architects specify Styrofoam® (a Dow plastic foam) for comfort insulation. This Dow plastic offers lifelong efficiency for lasting customer satisfaction.

Styrofoam is permanent because it's resistant to rot, mold, and deterioration. Its superior resistance to water means its low "K" factor stays low.

Installation is quick and easy with Styrofoam because it's light, clean, easy to handle. It comes in convenient 3', 8',

and 9' lengths which can be cut to fit with ordinary tools. It's available in varying widths and thicknesses and can be easily bonded to itself and other materials.

You'll find Styrofoam the best insulation on the market for slab, perimeter, roof and masonry walls. Styrofoam is also an outstanding low-temperature insulation. For further information, contact Dow Plastics Sales Department PL 572J or your nearest Dow distributor. THE DOW CHEMICAL COMPANY, Midland, Michigan.

*you can depend on **DOW PLASTICS***



WHAT ADVERTISERS HAVE LEARNED ARCHITECTS AND ENGINEERS

IN 78 OUT OF 85 readership studies sponsored by building product manufacturers and their agencies architects and engineers have voted Architectural Record their preferred architectural magazine. Here is the record:

Independently sponsored studies won by
the three leading architectural magazines

	1937-53	1954	1955	TOTAL
Architectural Record	51	17	10	78*
Architectural Forum	6	0	0	6
Progressive Architecture	1	2	0	3*

*Includes two ties for first.

NOTE: This includes all studies sponsored by advertisers or agencies for which results are available. Ask for a summary of all 85 studies.

ABOUT THE READING PREFERENCES OF

BEHIND THE STEADY PREFERENCE of architects and engineers for Architectural Record are two basic editorial facts:

1. Architectural Record is the one magazine edited *specifically* for architects and engineers; it never strays a picture or a paragraph away from their special interests.
2. The Record's editorial content is continuously *timed and balanced* with the aid of Dodge Reports of building planning activity to be of maximum value to architects and engineers in terms of the work on their boards.

AGAIN IN 1956 architects and engineers who plan—and specify the building materials and equipment that go into—four-fifths of *all* U. S. building, nonresidential and residential, small and large, will be your primary prospects.

To sell them effectively and economically . . . direct your advertising **SPECIFICALLY** to architects and engineers in the one magazine that is edited **SPECIFICALLY FOR** architects and engineers — and *steadily preferred* by them, *Architectural Record*.

Put all 5 of these exclusive Architectural Record advertising values to work for your sales force in 1956.

1. Reader preference—Architects and engineers have voted Architectural Record "preferred" in 78 out of 85 independently sponsored studies.

2. Verifiable market coverage—Dodge Reports document Architectural Record's coverage of those architects and engineers who plan over 85% of all architect-planned building, nonresidential and residential, small and large.

3. More circulation where it counts most—More architects, more consulting engineers,

more staff architects and engineers in commerce and industry subscribe to Architectural Record.

4. Advertiser preference—Year after year (and again in 1955) more building product manufacturers and their agencies, are placing more advertising pages in Architectural Record than in any other architectural magazine.

5. Top editorial quality and quantity—33 editorial awards—including three out of four awards by the American Institute of Architects to architectural magazines—testify to the quality of the Record's editorial content. And the Record publishes more editorial pages than any other magazine in its field—with every page edited *specifically for architects and engineers*.



Architectural Record

119 West 40th Street • New York 18, N. Y. • OXford 5-3000

"Workbook
of the
architect
and engineer"

THE RECORD REPORTS

(Continued from page 280)

fices at 27-A E. Tarb St., Petersburg, Va.

• Robert Murray Wagner, A.I.A., has opened offices at 2 Lafayette Court, Greenwich, Conn.

Firm Changes

• Benjamin E. Cave, Architect, has become a partner in the firm of Clark & Groff Engineers, to be known henceforth

as Clark, Groff & Cave, Engineers and Architects. Offices are at 3240 Triangle Dr., Salem, Ore.

• Kenneth Reid, A.I.A., has joined the firm of Ernest J. Kump, 450 Ramona St., Palo Alto, Cal.

• John Stevenson and K. C. Stanley have announced that the firm of Dewar, Stevenson & Stanley, Architects, will

be known as K. C. Stanley & Company, Architects and Engineers, 618 Northern Hardware Bldg., Edmonton, Alta.; and that the practice of Stevenson & Dewar, Architects, will be conducted as J. Stevenson & Associates, Architects and Engineers, at 340 7th Ave. W., Calgary, Alta.

New Addresses

H. E. Bovay Jr., Consulting Engineer, 5009 Caroline St., Houston 4, Texas
Campbell & Wong, 737 Beach St., San Francisco, Cal.

Arnold W. Cigahn, Architect, P. O. Box 8176, Sulphur Springs Station, Tampa 4, Fla.

Charles S. Cleveland, Architect, 214 Main St., Hackensack, N. J.

John A. Di Castri, M.R.A.I.C., 1405 Douglas St., Victoria, B. C.

Flewelling and Moody, Architects, 766 Colorado Blvd., Los Angeles 41, Cal.

W. Asa Hudson, A.I.A., and Gene H. Brockow, A.I.A., Architects, 6318 San Vicente Blvd., Los Angeles 48, Cal.

Hyun & Cohn, Architects & Associates, 109 N. Larchmont Blvd., Los Angeles 4, Cal.

Delwin V. James, A.I.A., 5010 Kelvin Dr., Houston 3, Texas

Lockwood, Kessler & Bartlett, Inc., Engineers-Surveyors, One Aerial Way, Syosset, N. Y.

Micklewright and Mountford, Architect, E. Stuyvesant Ave. at Prospect St., Trenton, N. J.

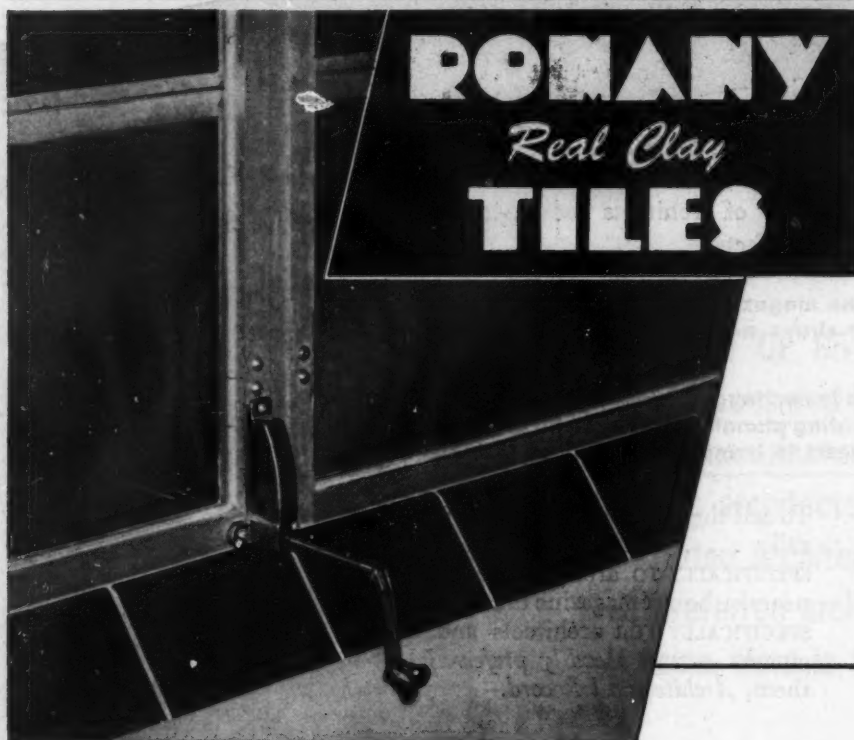
Richard M. Nevin, Architect, 453 Elm Ave., Westmount 6, P. Q., Canada
Arthur B. Rathert, Architect, 4341 Chippewa St., St. Louis 16, Mo.

Smith Carter Katelnikoff, Architects, Ian M. Brown, Associate Architect (Brandon office), The Leech Bldg., 857 18th St., Brandon, Man., Canada

James A. Stripling, A.I.A., Florida Education Association Bldg., W. Pensacola St., Tallahassee, Fla.

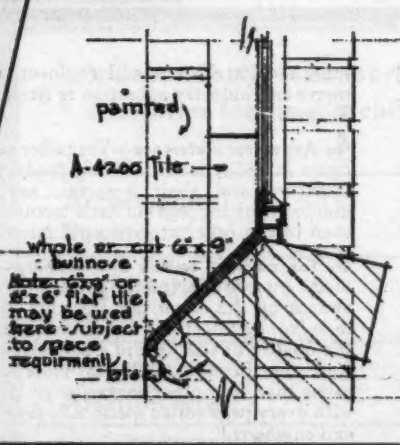
Tuchman, Canute, Architects, 777 W. Market, Akron 2, Ohio

Yamasaki, Leinweber and Associates, 103 W. Fifth St., Royal Oak, Mich.



SLOPING WINDOW SILL TILE

Especially in schools, there is a growing preference for sloping window sills where nothing can be collected—including dust. ROMANY 6"x9" bullnose or flat tile may be cut to perfectly connect window sill with wall surface below. Bullnose tile may be turned into the plaster or wall surface, or into the window. ROMANY A-4200 cap is of real assistance for both jambs. These units are available in all Buff Body colors.



Every Architect should have our Sample Tile Chart No. 6. It's free.

UNITED STATES CERAMIC TILE COMPANY

Member: Tile Council of America and Producers' Council, Inc.
217-H FOURTH ST., N.E., CANTON 2, OHIO

CORRECTION

Details shown in the photograph on p. 152, AR, July 1955, and in those on p. 196 and p. 203 (bottom), AR, October 1955, credited to Stephen L. MacDonald, architect, should have been credited to Mr. MacDonald and Charles Willard Moore, Associated Architects.

(More news on page 288)



All lumber kiln-dried to specific, and uniform moisture content.



Stiles and rails securely fitted. Stiles are $1\frac{3}{4}$ " instead of $1\frac{1}{8}$ ".



Hand-matched face veneers; the panels $\frac{1}{8}$ " thick—instead of $\frac{1}{16}$ ".



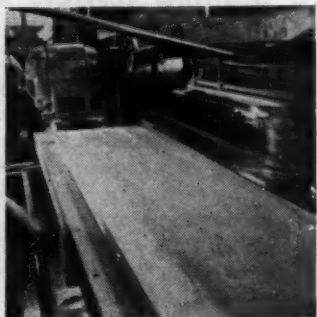
A complete coating of resin glue is applied by machine.



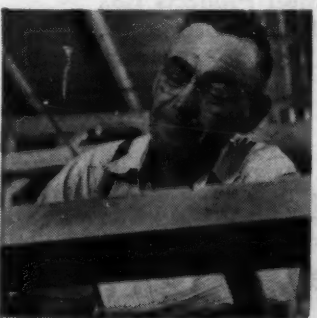
Accurate assembly is assured by controlled heat and pressure.



Doors pass through a complete conditioning cycle in special kilns.



Doors are carefully belt-sanded to a cabinetmaker's finish.



Special doors are custom-made by experienced craftsmen.



Each door must be painstakingly inspected in oblique light.

*Before and since CS200-55
.. or by any other standard of comparison*

PAINÉ

REZO[®]
FLUSH DOORS

with air-vented, all-wood grid core is

America's Finest

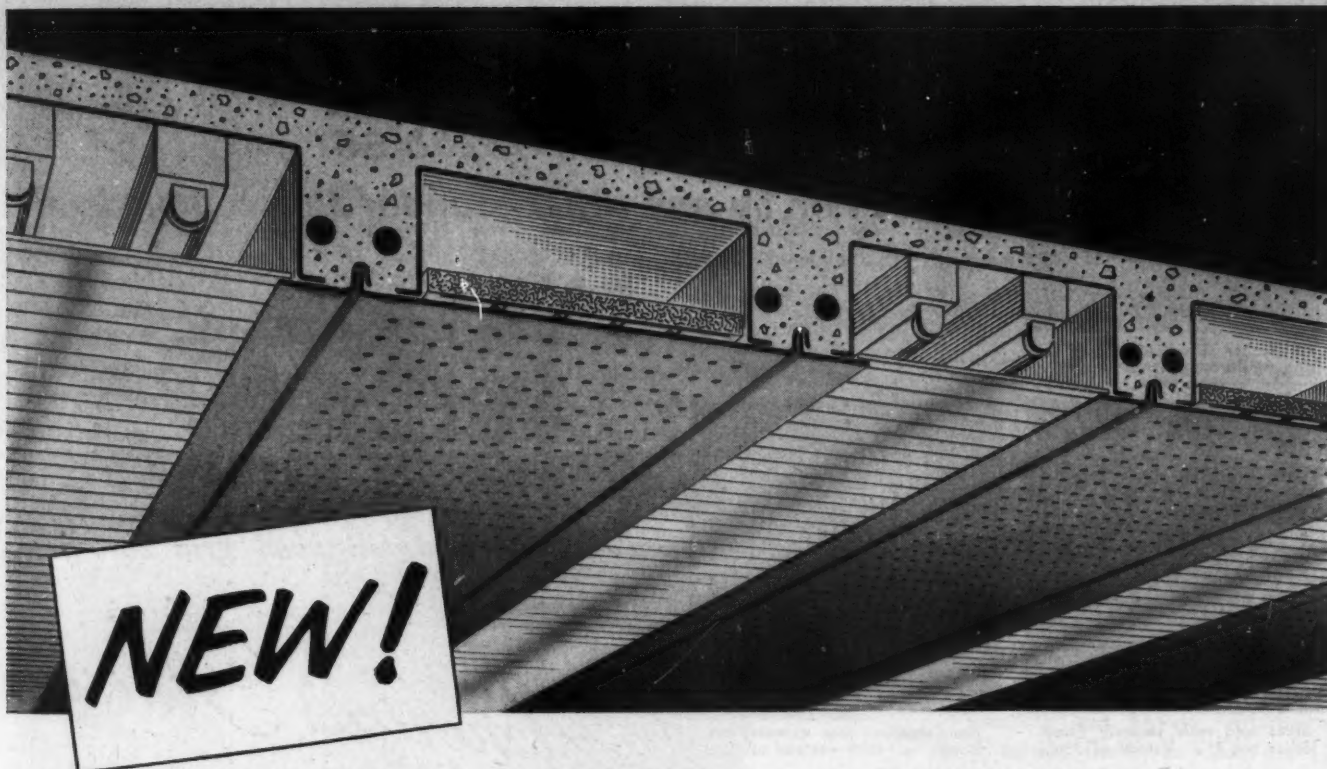
The Paine REZO Door is the only flush door manufactured since 1935 backed by 103 years of millwork experience — and 8,000,000 successful installations.

Paine's manufacturing standards not only comply with — but they exceed by far — every requirement of the new Commercial Standard 200-55. Step by step manufacturing process photos at left show why, by any standard of comparison, the Paine REZO Door is America's finest!



*Write today for
descriptive literature*

PAINÉ
LUMBER COMPANY, LTD.
ESTABLISHED 1853 • OSHKOSH, WIS.



FENESTRA TROFFER-ACOUSTICAL PANEL SYSTEM CUTS COST OF REINFORCED CONCRETE SCHOOL CONSTRUCTION

**Multi-purpose Steel Panels provide long-span forms for concrete joists
plus acoustical ceilings and recessed lighting troffers built right in!**

Multi-purpose is the key to economy in school construction. The NEW Fenestra® Troffer-Acoustical Panels (TAC Panels, for short) are designed for multi-purpose use of materials and construction labor. They permit you to have acoustical treatment and lighting—features that usually require extra time and labor—*built right in the structure itself!*

Money is saved because 3 expensive building materials are wrapped up in these economical building panels: (1) the forms for concrete joist construction, (2) metal pan acoustical ceilings, and (3) recessed lighting troffers.

Time is saved because the structural floor for the rooms above and the acoustical ceiling and lighting system for the rooms below are completed at the same time . . . with only paint, finished flooring and installation of fluorescent fixtures to be done after the concrete has cured.

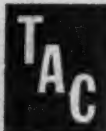
And, this new building system gives you better-looking, better-lighted classrooms that are easier to maintain, year after year. The ceilings can be washed or repainted as often as needed, without affecting the acoustical treatment. There is no hanging ceiling or "stuck on" acoustical material to be damaged or replaced.

Investigate the NEW Fenestra TAC Panel System now. Even if you have plans on the drawing board, they may easily be adapted to use it.

Call your local Fenestra representative or write today for your copy of the new brochure, *Fenestra TAC Panel System*. Detroit Steel Products Co., Dept. AR-12, 2252 E. Grand Blvd., Detroit 11, Michigan.

*Trademark

Architectural, Residential and Industrial Windows,
Metal Building Panels • Electrifloort, Roof Deck •
Hollow Metal Swing and Slide Doors †



Fenestra
**TROFFER-ACOUSTICAL
BUILDING PANELS**

Patents applied for

Lever House Weatherproofed with THIOKOL-Based Glazing Compound

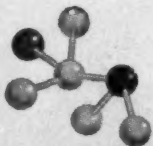
Due to the differing expansion rates of metal and glass, and the constant channeling of rainfall at the joints, the original glazing compound used in Lever House did not produce the desired effect.

Faced with a severe leakage problem, the Building Service Director of Lever House chose Tremco "Lasto-Meric", a compound based on "Thiokol" Liquid Polymer, as a suitable established replacement.

His choice was made on the basis of the performance of "Thiokol" Liquid Polymer—a solventless liquid that converts entirely to a rubber at room temperature and insures a tenacious, durable seal even after years of weathering. It maintains its resilience and adhesion at temperatures ranging from 250° above to 65° below zero.

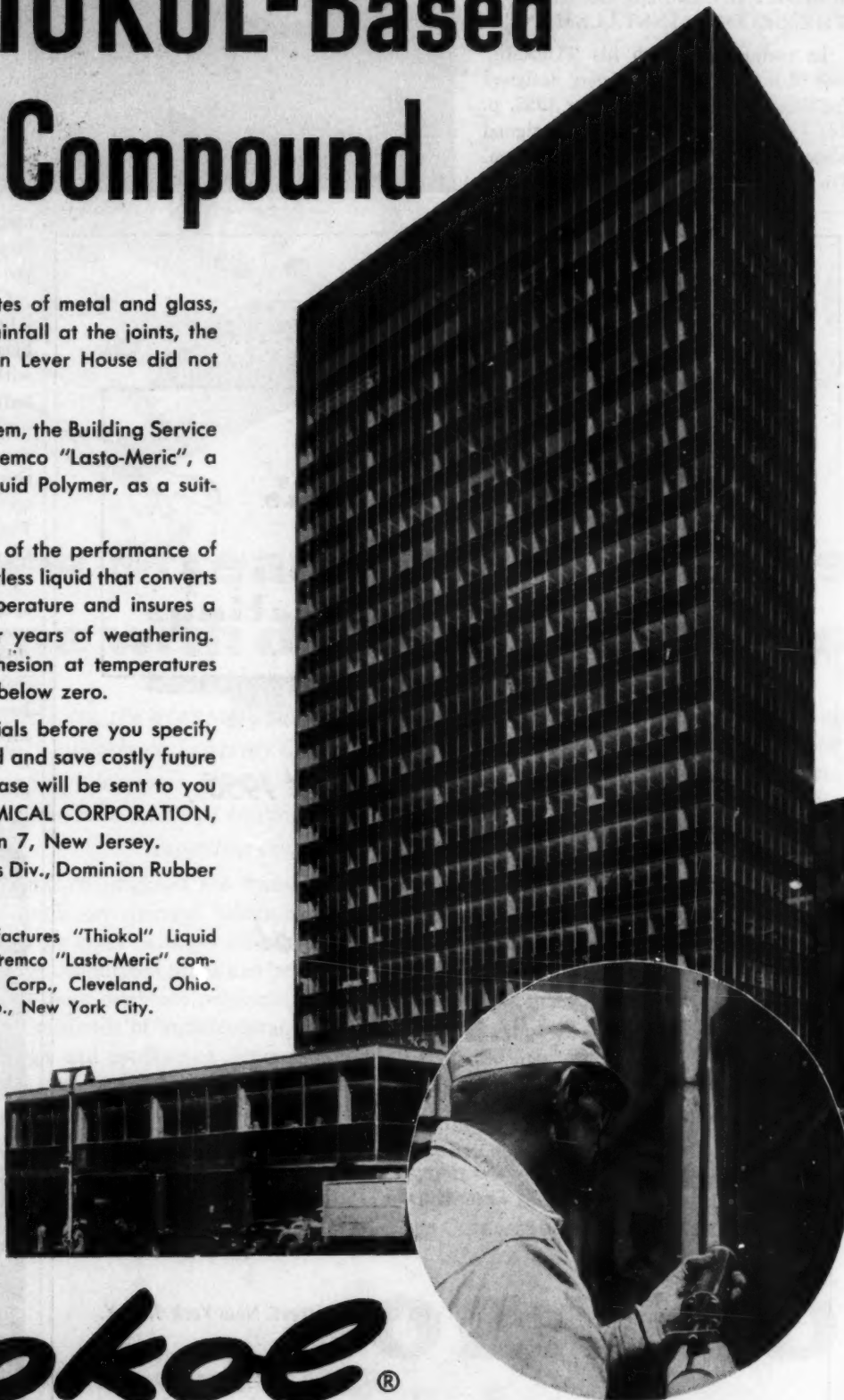
Investigate "Thiokol"-based materials before you specify your glazing or caulking compound and save costly future replacement. Information on this case will be sent to you on request. WRITE: THIOKOL CHEMICAL CORPORATION, 784 North Clinton Avenue, Trenton 7, New Jersey. IN CANADA: Naugatuck Chemicals Div., Dominion Rubber Company, Elmira, Ontario.

Thiokol Chemical Corporation manufactures "Thiokol" Liquid Polymer only as a raw material. The Tremco "Lasto-Meric" compound is a product of Tremco Mfg. Corp., Cleveland, Ohio. It was applied by the Grenadier Corp., New York City.



Thiokol®

PIONEER MANUFACTURERS OF SYNTHETIC RUBBER



Skilled mechanic of the Grenadier Corp., NYC, pressure calks "Lasto-Meric" into joints and then tools it into place with a spatula.

THE RECORD REPORTS

(Continued from page 284)

WRIGHT HOME FURNISHINGS: THE SECOND INSTALLMENT

In conjunction with his "Taliesin" line of fabrics and wallpapers designed for Schumacher (AR, October 1955, p. 20) Frank Lloyd Wright has designed some furniture for Heritage Hendredon. Displays of the furnishings recently



and best wishes for a good 1956

from your friends at

Karnak

Marty Jelin Lou Kern Ben Hazelton

Duke Wellington Bill Stewart

Bob Power Ernie Hutson Bob Brooks

Lewis Asphalt Engineering Corp. 30 Church Street, New York 7, N. Y.

opened simultaneously at the National Republican Club in New York and at the Merchandise Mart in Chicago.

Commenting on the designs, Wright labeled other contemporary furniture "a blasphemy, an imported hodge-podge without reason, totally at variance with natural living." His own designs, he maintains, are "a new thing under the sun, a furniture of organic design, derived from nature, mathematically correct." According to *The New York Times*, Wright also confessed that he found designing furniture was not easy: "I have been black and blue in some spot, somewhere, almost all my life from too intimate contact with my own early furniture."

The new furniture, built of mahogany, bears a Wrightian motif on the edges of tables and drawers. Wright's signature is burned into the drawers of some pieces, affixed in red gold foil on others.



(More news on page 292)



New Streamliner 400 saves drafting time with duplicate originals

Last word in whiteprinters, the STREAMLINER 400 will produce easily, quickly and cheaply Ozalid duplicate originals of drawings, plans, designs, and sketches—save hours of tracing and repetitive copying.

Ozalid duplicate originals are translucent prints, on which any changes, additions and deletions can be made without affecting the basic drawings. Additional prints can be made directly from these duplicate originals. They are used in thousands of architectural, engineering, design and production departments to speed the preparation of drawings for wiring, plumbing, air conditioning, for special installations, for fabricators and suppliers.

The STREAMLINER 400 will reproduce any-

thing drawn, typed, printed or written on translucent materials—reports, specifications, drawings, materials lists, instruction sheets, bulletins, payroll sheets, cumulative records, etc. An Ozalid copy can be made in less than a minute, is delivered dry and ready for use, and costs less than 1½¢ a square foot.

The new model has synchronized printing and developing, handles sheet or roll stock up to 42" wide, prints at speeds up to 24 feet per minute. It is compact, easy to operate, requires minimum maintenance—and is low priced.

Ask the nearest Ozalid distributor (*see phone book*) how the STREAMLINER 400 can help you. Or write for information to 308 Ozaway, Johnson City, N. Y. In Canada, Hughes Owens Company, Ltd., Montreal.

OZALID—A Division of General Aniline & Film Corporation • *From Research to Reality!*

OZALID



The new low priced Ozalid STREAMLINER 400 has synchronized printing and developing... produces perfect whiteprints for less than 1½ cents per square foot.

**Modern note in
Rest Room Planning**



Simplified **Open Expanse** *design* —key to neater, more sanitary rest rooms

With a minimum of simple maintenance, the room above will look just as neat and clean twenty or more years from now as you see it here. Its modern appearance is virtually *ageless!* For the durable, easy-to-keep-clean wall-type plumbing fixtures by American-Standard will retain their smooth, spotless good-looks many extra years. And the expansive fixture-free floor permits quick, easy cleaning of the room—from wall to wall.

But improved sanitation, lower maintenance, and an always up-to-date look are not the only advan-

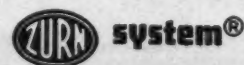
tages of using American-Standard wall-type plumbing fixtures. Especially when you specify that they be installed and supported on the Zurn System. This combination of superbly designed fixtures and rigid supporting fittings, which are engineered to relieve the wall of all the stress, also makes for easy, time-saving installation.

If you would like to know more about American-Standard wall-type plumbing fixtures and the Zurn System, we will be pleased to send you two booklets which contain interesting information on these essential

products. Just ask for the American-Standard "Better Rest Room Guide" and the Zurn booklet, "You Can Build It For Less A New Way."

AMERICAN-Standard

off-the-floor fixtures
installed with and supported by the



give you these important benefits—

- ✓ insured sanitation
- ✓ simplified maintenance
- ✓ modern appearance



Plumbing and Heating Division
American Radiator & Standard Sanitary Corporation, Pittsburgh, Pa.
J. A. Zurn Mfg. Co. (Plumbing Division), Erie, Pennsylvania

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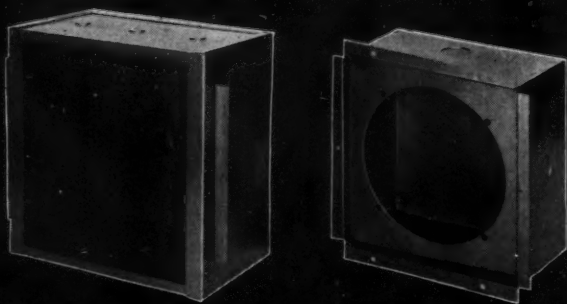
**Your Sound
Choice...**

for sound
distribution
equipment

When you choose Lowell—you select the profitable sound distribution equipment preferred by both architects and acoustical engineers. Lowell is found in more installations—large or small—than any other make!



BL SERIES



BOX TYPE "P" SPEAKER ENCLOSURES

Lowell Ceiling Baffles

Lowell BL Series Baffle (illustrated) is specifically designed for normal height ceilings. Mounts flush without cutting holes in ceiling. "Floating conical action" distributes uniform sound throughout 360°. Diffusing cone "floats" on soft rubber grommets. Heavy gauge aluminum in natural satin finish or colors. Accommodates 6" to 12" speakers.

Lowell Protective Enclosures

Rugged 18-gauge steel boxes protect speakers from fire, rodents, dust, mortar. Rust preventive finish with interior of larger models heavily undercoated to prevent metallic resonance. Eight models from 4" to 9" deep.

Write for complete information and specifications

LOWELL...ONE SOURCE FOR OVER 100 MODELS OF: CEILING AND WALL BAFFLES
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REPRESENTATION

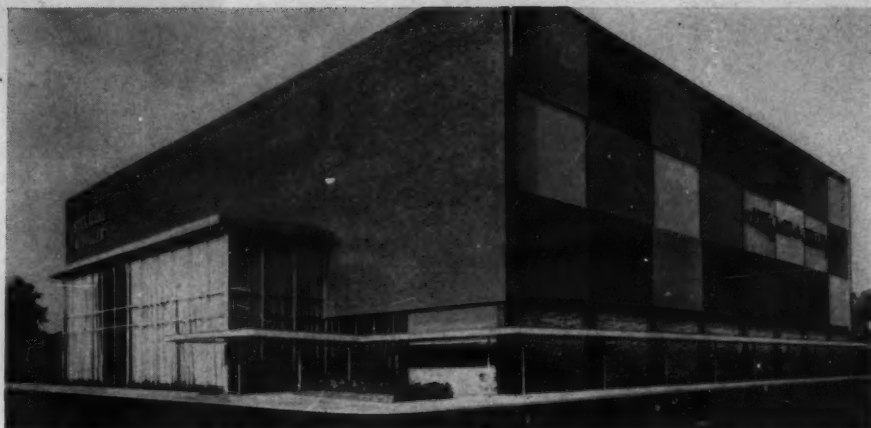
THE RECORD REPORTS

(Continued from page 288)

ST. LOUIS STORE OPENS SHOPPING CENTER BRANCH

Planned as the center of Westroads Shopping Center, a branch of Stix, Baer & Fuller, St. Louis department store, was recently opened at Richmond Heights, Mo., near St. Louis.

The store, which has five floors, has a "checkerboard" front composed of green



glass mosaic panels from Treviso, Italy; the other sides are faced with red brick. Louvered aluminum ventilation panels are worked into the façade pattern. On the east side of the building, a two-story glass "Gift Court" projects from the main building.

Other stores in the shopping center include a shoe store, jewelry store, supermarket, dime store, two women's specialty shops and a drug store.

Architects were John Graham and Company of Seattle and Welton Becket and Associates of Los Angeles.



TRULY DISTINCTIVE IN
STAINLESS
STEEL...

HAWS

**SEMI-RECESSED
WALL FOUNTAIN**

MODEL No. 73

Smartly designed, extraordinarily convenient is this entirely new HAWS Semi-recessed Fountain that takes up little space in corridor or room and has drinking fountain head and operating lever handle accessibly located opposite one another on the top platform. An access panel in wall is NOT required for this fountain and all fittings are accessible from under bowl.

Write today for full details of this handsome fixture that will lend grace to your most exactly designed public building, office building, school, hospital or restaurant.

HAWS

DRINKING FAUCET CO.

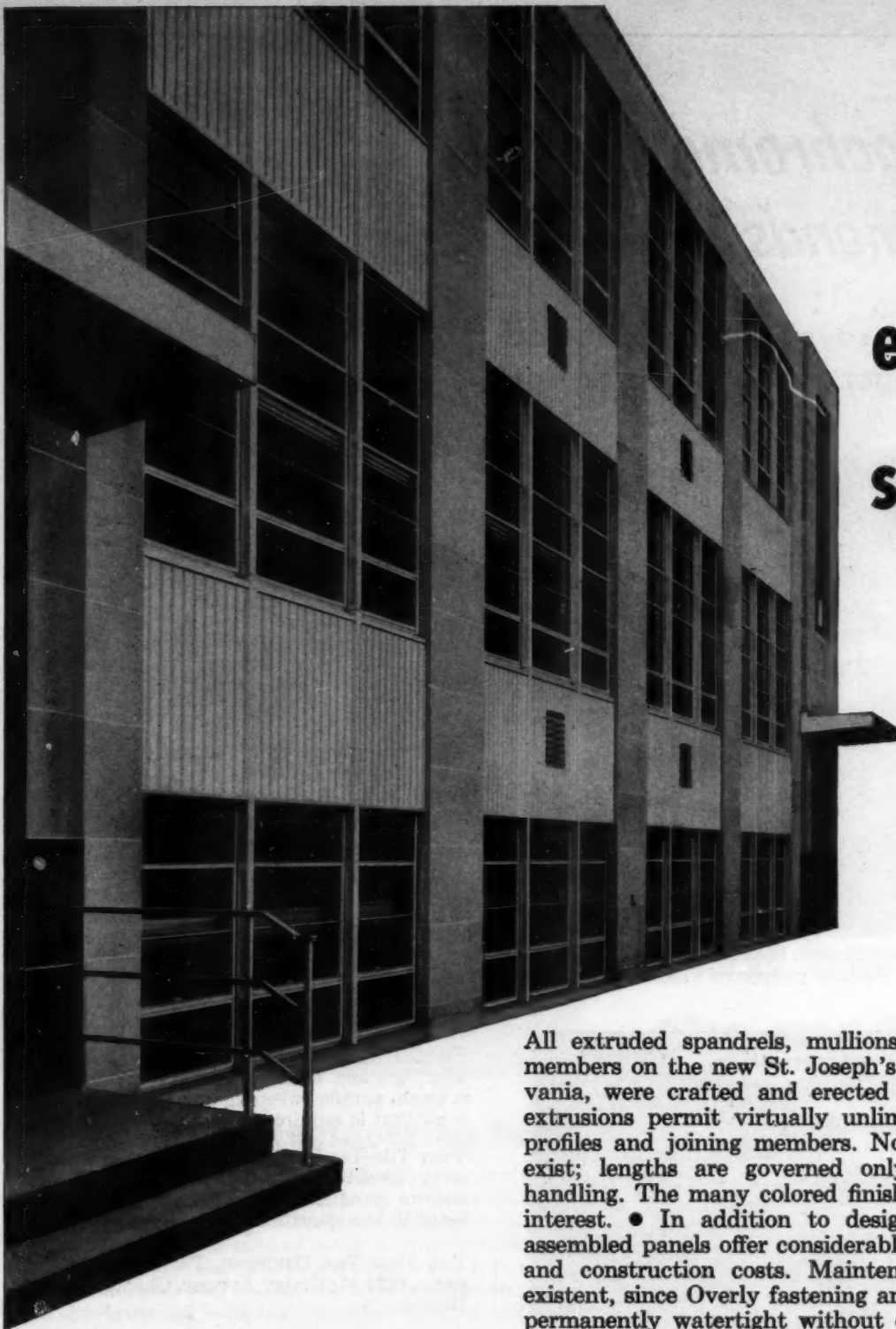
1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA



Above: one of six plastic murals designed by Leonard Kaplan and Alan Gerard. Below: by the same designers, wrought iron and plastic "balloon" in children's department



(More news on page 296)



extruded spandrels..

crafted
by
Overly

All extruded spandrels, mullions, spandrel head and sill members on the new St. Joseph's School, Sharon, Pennsylvania, were crafted and erected by Overly. • Aluminum extrusions permit virtually unlimited design flexibility in profiles and joining members. No restrictions as to width exist; lengths are governed only by practical limits of handling. The many colored finishes available offer further interest. • In addition to design versatility, these pre-assembled panels offer considerable savings in erection time and construction costs. Maintenance problems are non-existent, since Overly fastening and joining systems remain permanently watertight without caulking. For further details, write for our new catalog 8b-Ov.



Architects: Stickel & Associates,
Cleveland, Ohio.

OVERLY MANUFACTURING COMPANY
Greensburg, Pennsylvania • Los Angeles 39, California



"One Flexachrome Floor Recommends Another!"

says Mr. Harold P. Bock,
General Manager of the Bismarck Hotel



Old Vienna, popular soda fountain in Chicago's Bismarck Hotel
... with its beautiful, durable, *greaseproof* Flexachrome floor.



Attractive floor design of Flexachrome Vinyl-Asbestos Tile
in Bismarck Hotel's newly decorated coffee shop.

"After careful investigation of several kinds of flooring, we selected Flexachrome Vinyl-Asbestos Tile for our Old Vienna Room. What we wanted was a light, colorful, greaseproof floor... one that was easy to clean... and required a minimum of maintenance. And Flexachrome proved so successful in every way in that room, we used it again when we redecorated our coffee shop."

* * * *

This exceptional vinyl-asbestos tile is excellent for practically *any* hotel area: Lobbies, restaurants, bars, kitchens, corridors, elevators, guest rooms, beauty shops, drug stores.

As a "dress up" tile, Flexachrome has no rival. At moderate cost, it creates an atmosphere of luxurious quality... and yet Flexachrome is so *practical*. Select from 23 beautiful, rich colors that go through from surface to surface.

These colors, combined with a wide choice of sizes, and tile-at-a-time installation, gives you practically unlimited design possibilities.

Flexachrome tile is also highly resistant to wear, greases, acids and alkalis. And to keep it clean, simple sweeping and periodic washing is all that is required.

Your Tile-Tex Contractor will give you the full story about Flexachrome... and the other flooring products in the Tile-Tex Line. He is listed in the classified pages of your Directory.

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Avenue, Chicago Heights, Illinois.

TILE-TEX—PIONEER DIVISION, The Flintkote Company, P. O. Box 2218, Terminal Annex, Los Angeles 54, California.

The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada.

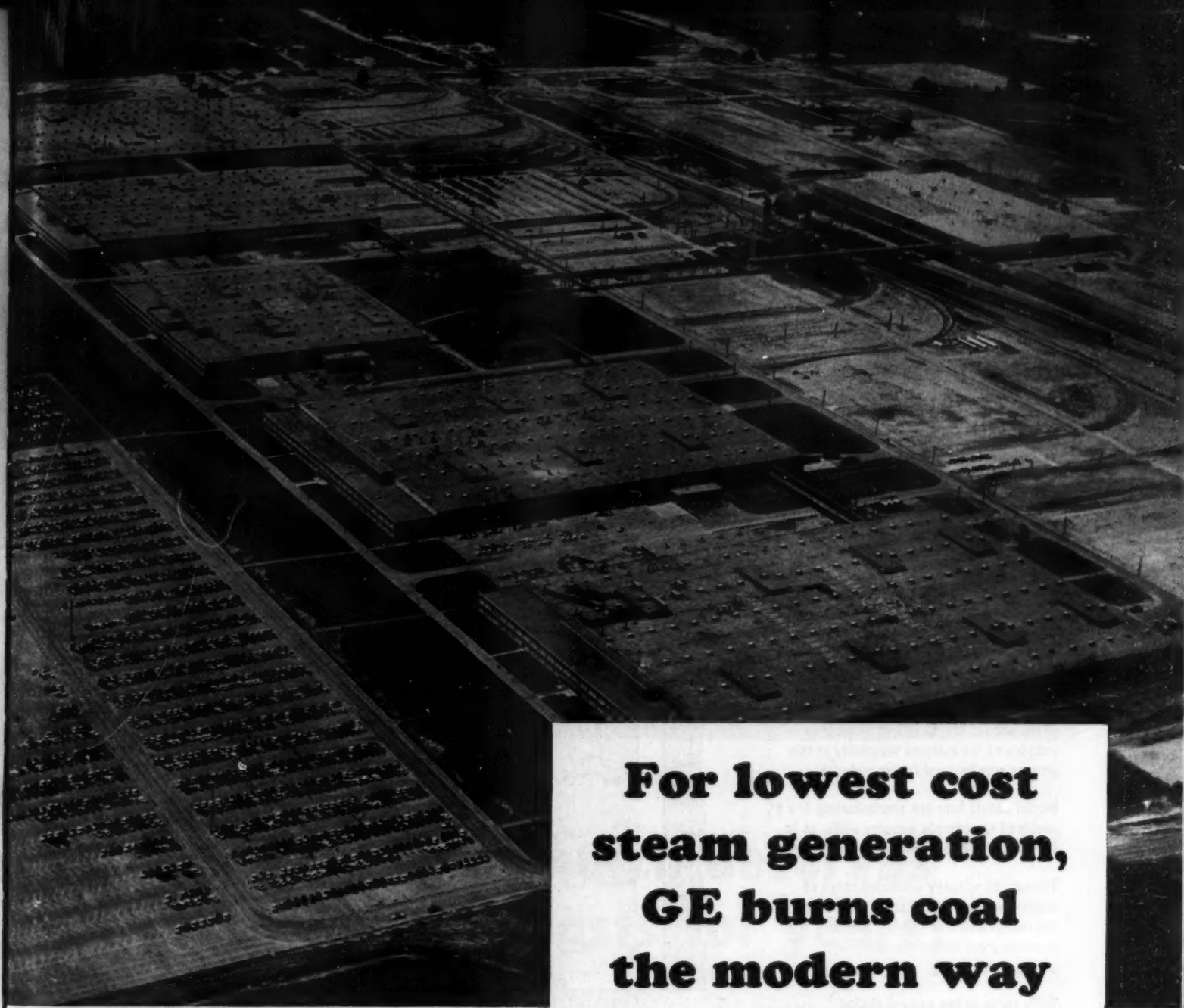
Manufacturers of Flexachrome*... Tile-Tex*... Tuff-Tex*... Vitachrome*... Holiday†... Mura-Tex*... and Modnart, the newest development in asphalt tile.

*Reg. U.S. Pat. Off.

†Trademark of The Flintkote Company

TILE-TEX... Floors of Lasting Beauty





For lowest cost steam generation, GE burns coal the modern way

Consult an engineering firm

Designing and building hundreds of heating and power installations a year, qualified engineering firms can bring you the latest knowledge of fuel costs and equipment. If you are planning the construction of new heating or power facilities—or the remodeling of an existing installation—one of these concerns will work closely with your own engineering department to effect substantial savings not only in efficiency but in fuel economy over the years.

facts you should know about coal

In most industrial areas, bituminous coal is the lowest-cost fuel available. • Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar. • Automatic coal and ash handling systems can cut your labor cost to a minimum. Coal is the safest fuel to store and use. • No smoke or dust problems when coal is burned with modern equipment. • Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

General Electric's Major Appliance Division in Louisville, Ky., has five product manufacturing buildings, a warehouse and service buildings—over 4 million sq. ft. under roof. To generate all steam necessary for process work and heating requirements of this vast area, GE's power plant burns coal the modern way. Coal was chosen for two reasons. One, a careful fuel cost study disclosed that, on a straight economic basis, coal would give GE the lowest cost steam generation of all fuels. Second, availability of supply was considered and again coal won over other fuels. In addition, full mechanization of GE's power plant has facilitated all details of coal handling and ash removal while completely eliminating any possibility of air pollution.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

NATIONAL COAL ASSOCIATION
Southern Building, Washington 5, D. C.

THE RECORD REPORTS

(Continued from page 292)

LONG NARROW SPACE MAKES AWARD-WINNING SHOWROOM

The problem presented by the Kohler Company of Los Angeles was to provide office space, sales counter, file and storage space and display area for the firm's line of plumbing fixtures, engines, electric plants and precision controls — all in a space 100 ft by 20 ft. The result was



②

● Ogden Tabernacle, Ogden, Utah
Architect: Fred L. Markham
Mo-Sai by Otto Buehner & Co.,
Salt Lake City, Utah

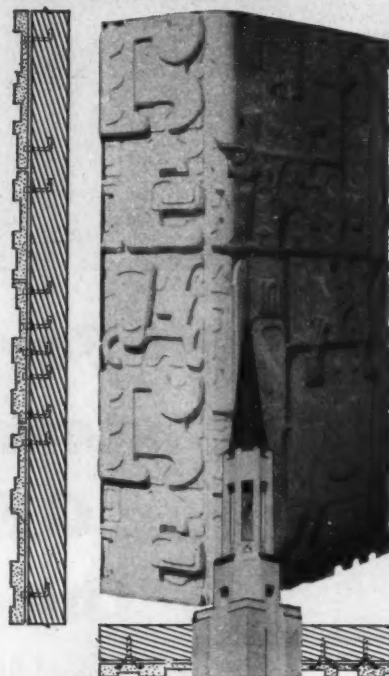
In this treatment, Mo-Sai precast facing recaptures the timeless grace and beauty of the ancient Mayan cities, — another instance of the extreme versatility of this modern architectural facing material.

Mo-Sai panels here are approximately 4' x 6', anchored to concrete masonry walls, as is the intricate Mo-Sai grillework of the facade.

Through its virtually unlimited range of shapes and colors, and sizes limited only by the requirements of the job, Mo-Sai provides great design flexibility in architectural facing.

Write today to the nearest Mo-Sai Associate listed below for samples and a complete product description and analysis, or for assistance from an experienced Mo-Sai engineer.

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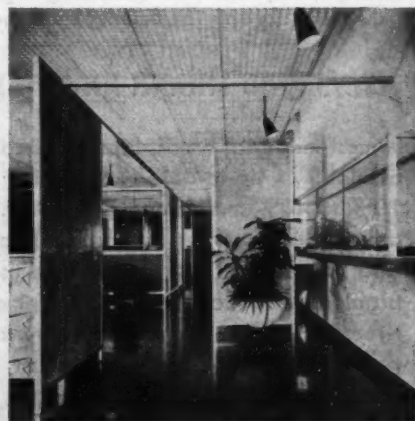
SWEET'S
FILES
3d/Mos



a Certificate of Honor for the architects, A. C. Martin and Associates, from the Southern California Chapter of the American Institute of Architects.

Among the devices used to increase the apparent width of the room were carefully spaced display panels. In their function as display background these screens can be changed by inserting removable panels of varying colors and textures in the metal frames. These are also part of the architects' efforts to show the fixtures in an "abstract manner" to stimulate fresh planning by home owners and builders visiting the display.

Over-all grid lighting was dropped to lower the ceiling; further illumination comes from strip lighting behind the panels.



Monel protection. Tower sheathing, flashings, parapets, bulkheads, drainage system and skylight frames of Regina Pacis Votive Church and adjoining parochial school are all fabricated of .021" Monel Economy Roofing Sheet. Corrosion resisting and long lasting, Monel weathers uniformly where exposed. Architect: Anthony J. DePace, 151 W. 46th St., New York 36, N. Y. Sheet metal contractor: John Schneider Roofing Contractors, Inc., 1056 Cypress Ave., Brooklyn 27, N. Y.



Its architect specified Monel because . . .

a beautiful church deserves roofing that lasts for years!

In all of Brooklyn, New York — which is famous for them — there are few churches more beautiful than Regina Pacis Votive — *Our Lady of Peace*.

Done in the Italian baroque style and laid out like a cathedral, the church is actually much larger than it appears in the picture. *Thirty thousand pounds of Monel® Economy Roofing Sheet were used on the structure and its attached parochial school.*

Monel was specified because Monsignor Angelo R. Cioffi, under whose auspices the buildings were erected, wanted *permanence* as well as *beauty*.

And architect Anthony J. DePace, with sheet metal contractor John Schneider's help, saw to it that Msgr. Cioffi got both!

Are you writing "Monel Roofing Sheet" into *your* specifications? It's a service many of your clients will thank you for in the years ahead.

Why? Simply because Monel will serve them long and dependably. It is stronger and tougher than structural steel. It resists corrosion . . . wear . . . abrasion. Does not streak facades and stands extremes of heat and cold.

What's more, this sturdy nickel alloy presents no fabrication or installation problems. Monel Roofing Sheet used for metal work on Regina Pacis Votive Church was readily cut, formed, seamed and soldered.

Our booklet, "One Metal Roof," contains full information on various roofing problems, and on the metal properties needed to solve them. Also includes data and service records on Monel Roofing Sheet, and many building photographs. Write for a copy.

The International Nickel Company, Inc.
67 Wall Street New York 5, N. Y.



When illuminated at night, the bell tower of Regina Pacis Votive can be seen 15 miles at sea.



Nickel Alloys

Monel Roofing . . . "for the life of the building"

*Whitest by
Any
standard*

The extreme whiteness of Trinity White Cement is obtained by selection of raw cement-making materials which are remarkable for absence of color. There is no off-color cast in Trinity White to detract from the beauty of the finished structure.

UNGER

Trinity is the *whitest* white cement judged by any standard. It is whitest in the bag . . . whitest in the mix . . . whitest in the finished job! You can see the extra whiteness with the naked eye! Trinity White is a true portland cement. It meets all Federal and ASTM specifications. Use it for architectural concrete units; stucco, terrazzo; cement paint; light-reflecting surfaces; mass or contrast; or wherever the purity of white and the purity of color tints is desirable in concrete or masonry. Trinity Division, General Portland Cement Co.



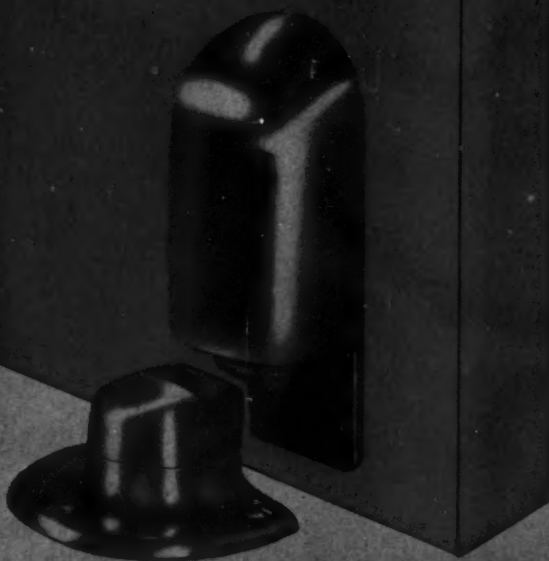
as white as snow
plain or waterproofed

Trinity White
THE WHITEST WHITE CEMENT

A Product of GENERAL PORTLAND CEMENT CO. • Chicago • Dallas • Chattanooga • Tampa • Los Angeles

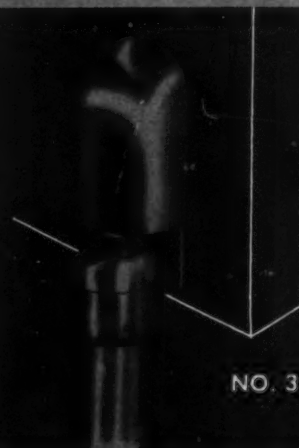
NEW ADJUSTABLE DOOR STOP

NO. 3900
(Was 3504)



- Turret floor strike instantly changes from **HOLDER** to **STOP**.
- Strike contour rounded . . . prevents damage to polishing and scrubbing heads of cleaning machines.
- Both **THROW** and **TENSION** of roller latch are adjustable.
- Body is "**KID-PROOFED**"—rounded contours and concealed screws.
- Made of solid corrosion-resistant cast bronze.

No. 3903 Holder-stop is identical to 3900 except turret head is mounted on extra heavy steel pipe. When used on door swinging over steps, pipe is set in concrete.



NO. 3903



SARGENT & GREENLEAF INC.

ROCHESTER 21, NEW YORK

THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 48)

in 1956, averaging out around 10 per cent when expressed in dollar volume, the agencies said.

It was pointed out that during the postwar period state and local governments have been faced with a growing backlog of construction needs despite increasing outlays for new projects. Re-

quirements are especially pressing, it was noted, for highways, schools, and sewer and water facilities. These three types of facilities are expected to account for fully three fourths of the rise in public construction expenditures in 1956. Each will set a new record level in the opinion of the joint Commerce-Labor statement.

Outlays for military facilities are expected to continue to increase next year. The expenditure figure was placed at \$1.5 billion, a 14 per cent increase over the \$1.3 billion 1955 outlay.

Expressed in dollar outlays, the government statement placed 1956 nonfarm residential activity at \$16.2 billion, or just one per cent under the estimated \$16.35 billion estimated for 1955. Numberwise, the Federal government outlook estimated 1.2 million private nonfarm homes would be started next year. This would be 100,000 fewer than in 1955 and 200,000 less than the 1950 peak.

Commenting on the housing outlook, the two agencies said: "Basically, this relatively high level of homebuilding in 1956 results from the widespread demand for better housing in prosperous times, a large volume of retirements (demolished, abandoned, or converted units) from the housing supply, as well as from population increase and mobility. The expected 1956 decline in housing starts had its origin in the latter part of 1955 when funds became relatively scarce for long-term, low down-payment mortgages at low interest rates, thus affecting the financing of homes to be started early next year."

A 12 per cent increase in highway construction was represented in the \$4.1 billion reported for 1955, and the \$4.6 billion anticipated for 1956.

These forecast figures reflect the large volume of construction now in progress, much of which will carry over into the new year.

NEW BUDOCKS CHIEF NAMED TO SUCCEED ADMIRAL PERRY

Rear Admiral Robert H. Meade, an Annapolis graduate who has been associated with naval construction for nearly 30 years, has been named Chief of the Navy's Bureau of Yards and Docks, succeeding the late Rear Admiral J. R. Perry, who died suddenly of a heart attack in September.

Admiral Meade, who graduated from the U. S. Naval Academy at Annapolis in 1922, ranking fourteenth in a class of 456, transferred to the Navy's Civil Engineer Corps in 1929 and had served with the Bureau of Yards and Docks from 1945 to 1950 and from 1953 to date. Since December 1953 he has been associated with the Budocks responsibility in construction of the U. S. air bases in Spain, first as Officer-in-Charge of Construction and more recently as Deputy Chief for Construction and Director of Construction, Joint U. S. Military Assistance Advisory Group, Spain.

For his wartime service as Officer in Charge of the First Naval Brigade, in Alaska and the Aleutians, Admiral Meade received the Legion of Merit,

(Continued on page 304)

Amtico PERMALIFE Vinyl Flooring...

...takes
hardest wear
for years!

- Needs less care than any other flooring!
- It's all vinyl...colors go thru and thru!
- Flexible, resilient, quiet!
- Defies grease and acids!
- Will not crack or tear!
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Available in Terrazzo and Mosaic Designs,
Plain and Marbleized Colors
(In tile and sheet form)

The World's Largest
Producer of Rubber Flooring
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TRENTON 2, NEW JERSEY

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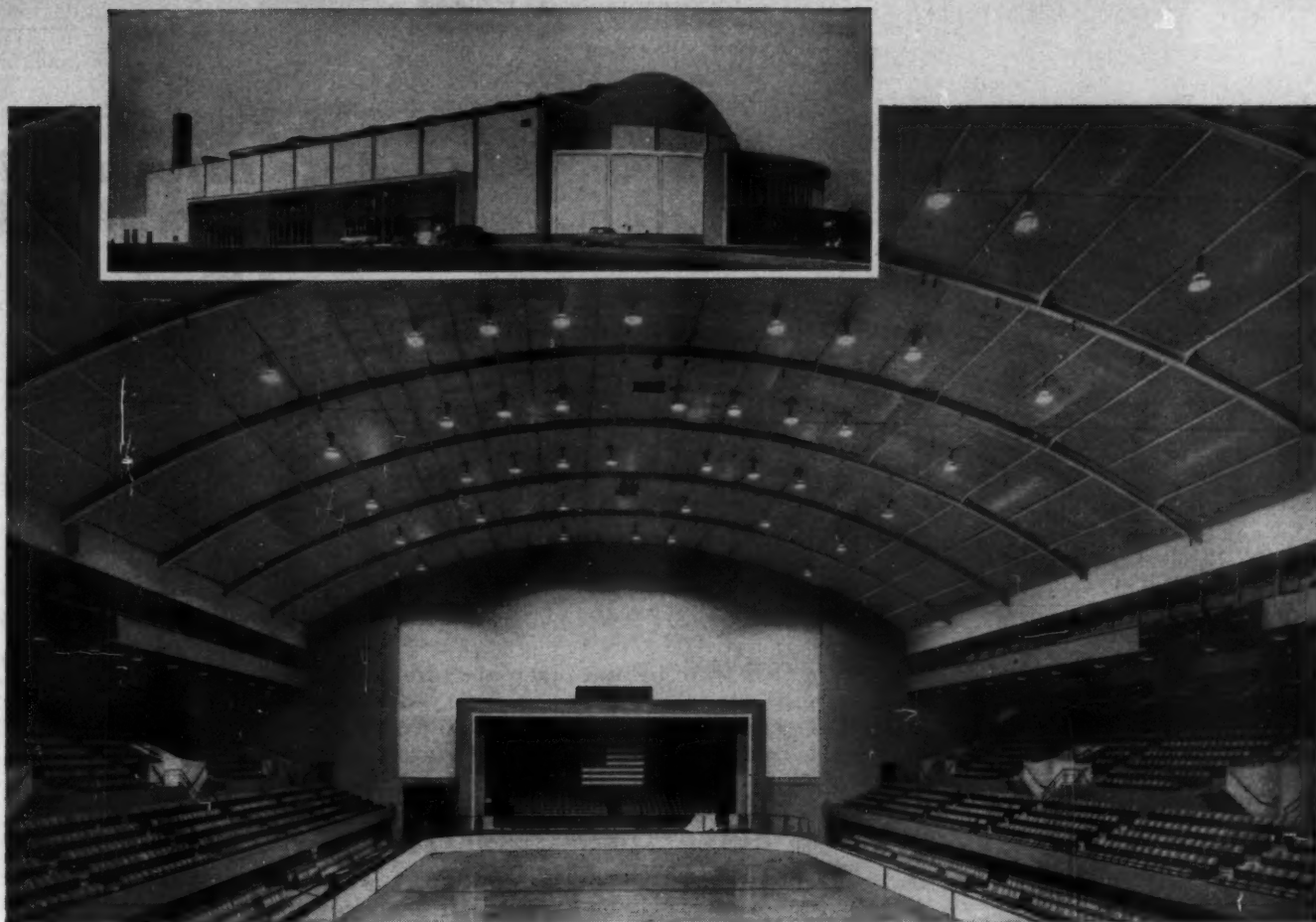
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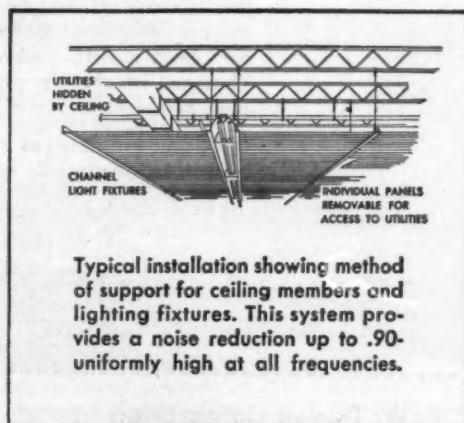
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business card or letterhead.



Spokane Coliseum proves efficiency of **ReynoCoustic**

Performers and spectators have attested the high acoustical efficiency of ReynoCoustic in the Spokane Coliseum. And this installation demonstrates other advantages of the system no less dramatically. The virtual elimination of maintenance is important in a ceiling difficult to reach. The brightness of aluminum makes lighting more effective, less expensive. And it is vital, in a public place, that this acoustical system is incombustible. Each shipment carries Underwriters' Laboratories label. Available in either natural aluminum or soft-white baked enamel finish.

A complete installation service is available. For name of nearest franchised acoustical applicator, call the Reynolds office listed under "Building Materials" in classified phone books of principal cities. For literature, write to Reynolds Metals Company, Building Products Division, 2015 South Ninth Street, Louisville 1, Kentucky.



Typical installation showing method of support for ceiling members and lighting fixtures. This system provides a noise reduction up to .90—uniformly high at all frequencies.

See "FRONTIER," Reynolds great dramatic series, Sundays, NBC-TV Network.

REYNOLDS ALUMINUM BUILDING PRODUCTS

**accurate, demanded, up-to-date information
on today's advances in building technology**



ARCHITECTURAL ENGINEERING:

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New Materials • New Applications**

by the editors of Architectural Record

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Here for the first time in one place are nine years of new developments in architectural engineering, nine years of sweeping progress in building technology, nine years of exciting new concepts, time and labor-saving methods, unique new materials and revolutionary new applications.

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**Over 1,500 plans, photographs, structural details, diagrams
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Send me _____ copies of *Architectural Engineering: New Concepts, Methods, Materials, Applications* @ \$11.50 each. Within 10 days after receipt I shall remit payment plus postage or return the book without obligation.

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There's a Bolted Steel Frame in This New Building in Florida

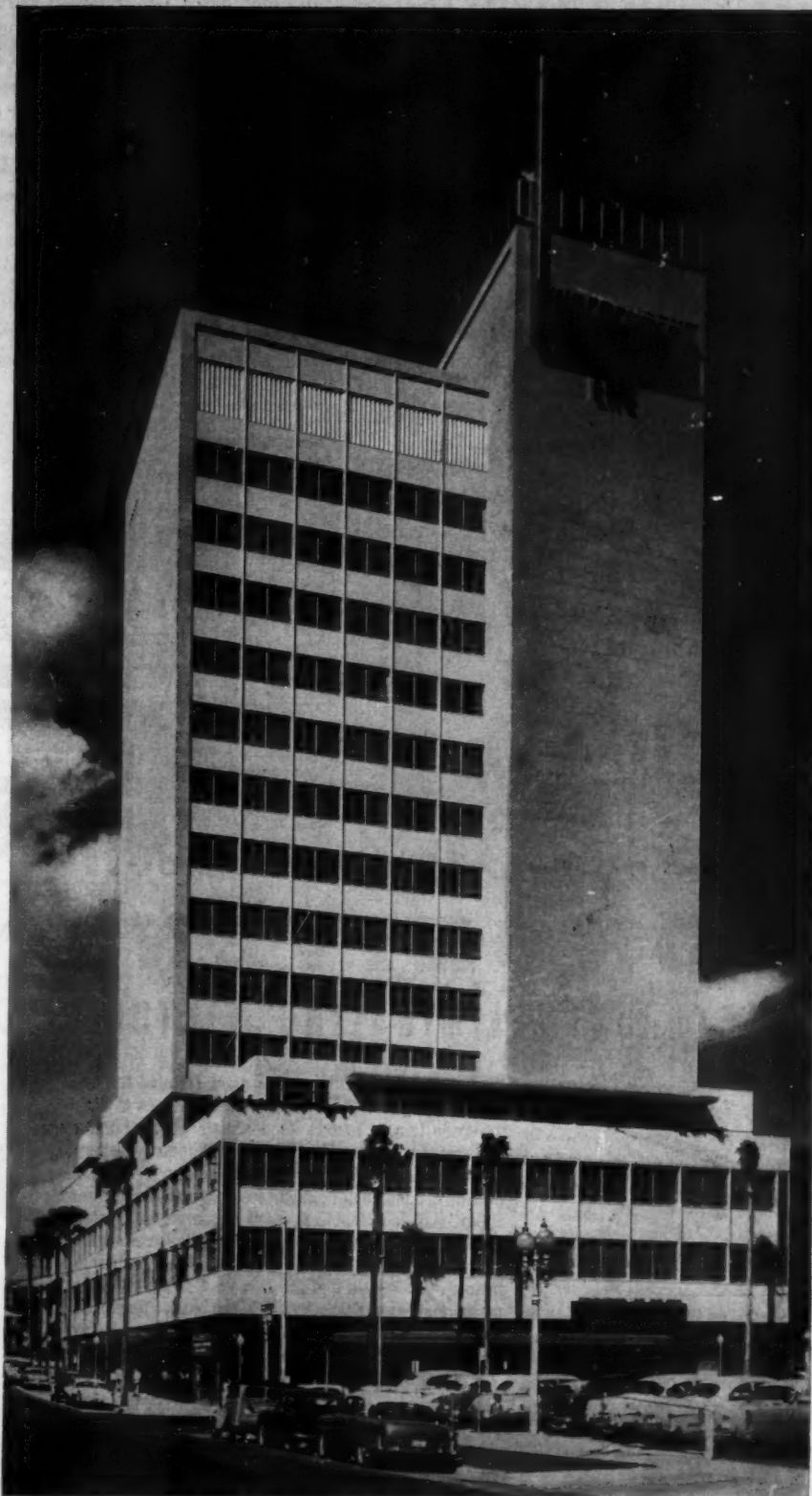
Here's a structure that is winning much favorable comment. It's the home office building of Independent Life and Accident Insurance Company, Jacksonville. It is 18 stories high, and L-shaped, and is topped by an attractive illuminated pylon of stainless steel.

The building, covering 16,800 sq ft of ground area, is faced with Indiana limestone, trimmed with glazed brick. Emerald-pearl Swedish granite is used for the first-floor facing. Mechanical equipment is grouped on the upper floors, an innovation in the Southeast for buildings of this type. The structural members making up the 1500-ton steel framework are bolted together with thousands of Bethlehem High-Strength Bolts.

Bethlehem High-Strength Bolts have come to be widely used in joining structural members. They provide permanently tight joints and make possible a saving in erection time. They are particularly desirable for construction in hospital and school zones, as the pneumatic wrench used in tightening the nuts is less noisy than a riveting gun.

Bethlehem High-Strength Bolts are made of carbon steel, and heat-treated by quenching and tempering, meeting every requirement of ASTM Specification A-325.

Save time by using Bethlehem High-Strength Bolts in your next construction job. The nearest Bethlehem sales office will be pleased to supply full information. Or drop a line to us at Bethlehem, Pa.



Bethlehem High-Strength Bolts join structural members of 1500-ton framework for Independent Life and Accident Insurance Company building, Jacksonville. Steel fabrication and erection by Bethlehem. *Architects:* Kemp, Bunch & Jackson; *General Contractors:* S. S. Jacobs Company; *Consulting Structural Engineer:* J. L. McCollough.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL



THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 300)

with a citation reading in part: "During the period of assembling and organizing construction forces for the westward movement through the Aleutian Islands, (he) demonstrated unusual professional skill and initiative in preparing and supervising the enormous construction program for the development of naval

and military bases on the recaptured islands of the Aleutian chain." A second citation, accompanying the Gold Star in lieu of a second Legion of Merit, recognized his contribution as Commander of the Seventh Construction Brigade at the Samar Naval Station, Philippine Islands, and commended his "excellent engineering ability."

SEEK 1957 BUDGET FUNDS FOR NEW FEDERAL PRISONS

Funds for two new penal institutions will again be sought by the Department

of Justice in its recommendations for the 1957 budget. The two institutions, a maximum custody prison and a project for youthful offenders, would cost a total of \$17 million.

Congress turned down this year's request for these buildings but Department officials are hopeful of securing approval at the next session and proceeding with the planning shortly thereafter.

The "design functions" will be let out to private architects, with the Department's Bureau of Prisons supplying only preliminaries and directives. Public Buildings Service of the General Services Administration, acting as agent for the Bureau, will select the architectural firms.

No sites have yet been selected for the new installations; but Attorney-General Herbert Brownell, after his recent conference with President Eisenhower in Denver, said a \$9.5 million maximum custody prison would be constructed somewhere in the Middle West to provide space for offenders such as now are confined in Alcatraz, Fort Leavenworth and Atlanta. The second project, to house youthful offenders, Mr. Brownell said, would be constructed somewhere west of the Mississippi at an estimated cost of \$7.5 million; this would provide facilities similar to those at the Bureau's present Ashland, Ky., institution.

PBS CHIEF RESIGNS AFTER DENYING ANY WRONGDOING

Public Buildings Commissioner Peter A. Strobel resigned his \$14,800 post last month after a subcommittee of the House Judiciary Committee had held hearings to determine whether he had used his Federal post to further his private business interests.

Mr. Strobel, a consulting engineer and member of the New York firm of Strobel and Salzman, reiterated in his letter of resignation to General Services Administrator Edward F. Mansure his previous denial that he had done anything wrong; he was resigning, he said, to spare the Administration and himself any further embarrassment. No successor was immediately announced.

FHA CREATES TASK FORCE TO HASTEN MPR REVISION

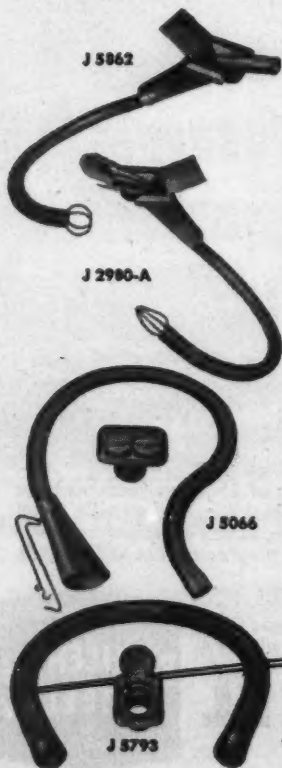
After months of trying to fit into its day-to-day operation the job of codifying and simplifying its Minimum Property Requirements, the Federal Housing Administration has created a special task force for the purpose.

(Continued on page 308)

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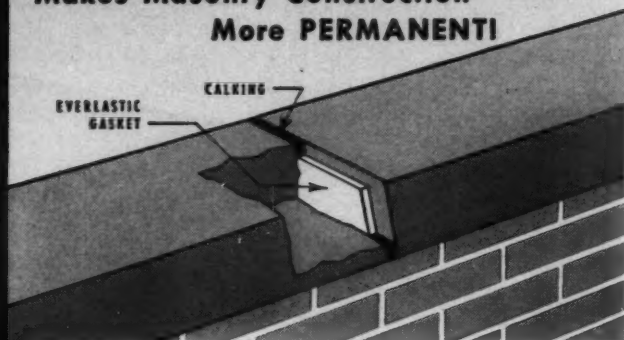
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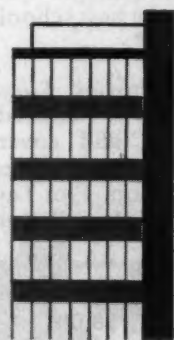
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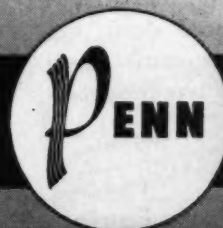
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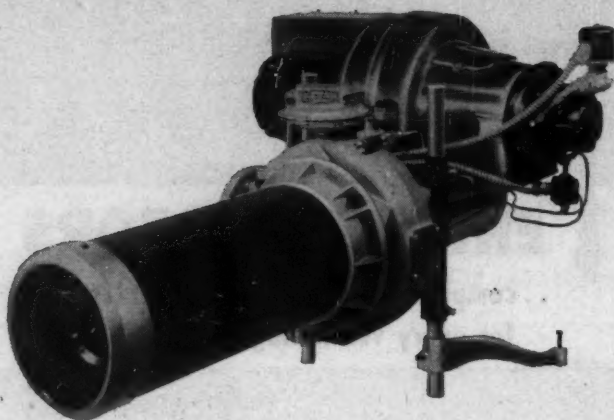
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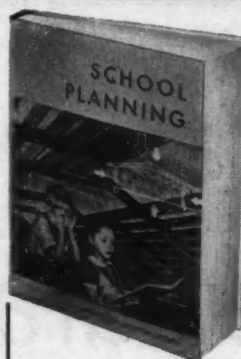
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THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 304)

Under the direction of Neil A. Connor, director of the Architectural Standards Division, a small group of FHA personnel thoroughly familiar with MPR administration has been put to work reviewing and collating the requirements which have been spread through 28 separate publications.

It is hoped that the new approach, concentrating the efforts of 15 to 20 persons on the problem at various times, will result in a single indexed volume with as few as 18 supplements governing geographical applications.

One of the major complexities so frequently complained of in the MPR's has been the ambiguity of their regional differences. An orderly sorting of the entire list by "readers" assigned to check and collate these differences should result in a much better understanding of their application and why they exist at all.

FHA's commissioner, Norman P. Mason, long has desired that the MPR's be given a more orderly arrangement and, if possible, contained under one cover. Mr. Connor's division has worked toward this end, but the huge assignment could not be carried out in addition to the regular duties of his personnel. As a result, and partially at the urging of the Advisory Committee on Architectural Standards, a building industry group appointed early this year to consider the problem of MPR revision, Commissioner Mason signed an order in October authorizing the task force.

It was explained that while the new assignment would take some FHA workers away from their usual jobs, getting the MPR's into more readable form, and into an indexed catalog, was considered worth the loss that might occur on other work.

Early plans for the project included talk of calling into Washington those in FHA field insuring offices most conversant with MPR administration so that they might add their knowledge to the effort. And some field meetings were being planned. Certainly, the FHA would keep in close touch with its advisory committee as the project progressed.

An automatic review of the requirements, item by item, was inherent in the revision program. Considerable change in wording, and perhaps in application, could be expected when the requirements had been worked over. One of the main objectives was to make the handbooks more readable at the same time the requirements are made more understandable for those who must deal with them more or less constantly.

BUILDING NEEDS TIED TO STABLE DEFENSE SPENDING

Dr. Grover W. Ensley, staff director for the Joint Congressional Committee on the Economic Report, takes the stand that stability in defense expenditures during the next fiscal year could result in the development of broader programs for highway, school, hospital and other public facilities construction.

In Doctor Ensley's words, "increasing stability in defense expenditures, combined with a growing revenue base, provides the opportunity for action" in the school construction and other building programs.

Failure to increase Federal expenditures for these programs would mean that the government is to assume less and less of "its historic and cooperative

(Continued on page 312)

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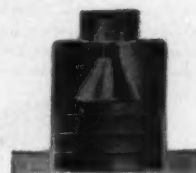
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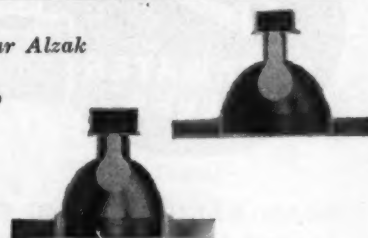
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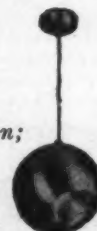
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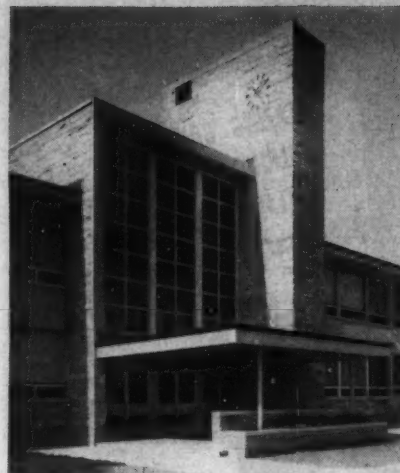
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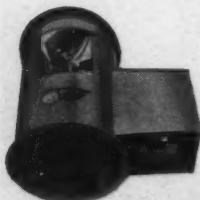
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 308)

responsibility, shifting larger shares of the burden to state and local governments," Doctor Ensley said. He argued that such a shifting of Federal participation would weaken the country's overall tax structure from the standpoint of economic stability and growth.

HHFA USES TRAVELING TEAM TO SPUR "PRIVATE" RENEWAL

In an effort to put more steam behind its slum clearance and urban rehabilitation program, the Urban Renewal Administration of the Housing and Home Finance Agency has been sending a traveling team into selected cities with approved workable programs.

This team has "private industry" as well as government representatives among its members. The first visits were made to Memphis and St. Louis. URA officials were joined by Charles Stewart of the National Association of Real Estate Boards and Morton Saber, National Association of Home Builders, and local Chamber of Commerce officials. These men conferred with the Mayor, other local officials, citizen and business organizations whose interest and support is required to insure the success of local renewal programs.

The team visits were conceived to aid localities in formulating step-by-step programs for completing rehabilitation-type urban renewal plans and qualifying for issuance of FHA Section 220 mortgage insurance.

HHFA obviously considered 220 assistance a vital part of any urban renewal effort. This section of the 1954 law authorizes the Federal Housing Administration to insure private mortgages for the construction or rehabilitation of sales and rental housing in approved urban renewal areas. Mortgage risk estimate is based on the future soundness of the blighted area rather than on present conditions.

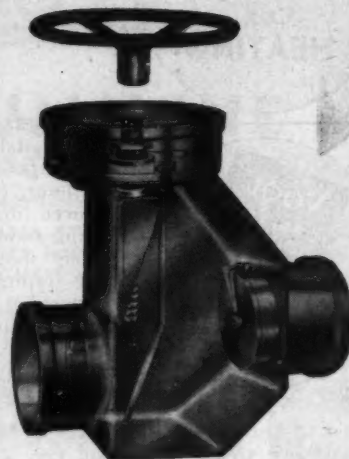
Urban Renewal Commissioner James W. Follin also has been busy trying to get the "old act" slum clearance and urban redevelopment projects off the planning boards and into actual site operations.

There were 277 Federally assisted projects initiated under the older law of 1949. By October, 37 urban renewal projects had been initiated under the broader provisions of the 1954 act.

(Continued on page 316)

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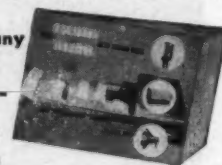
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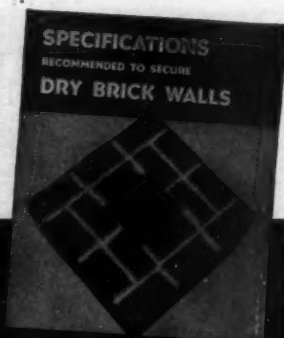


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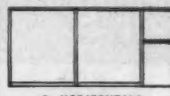
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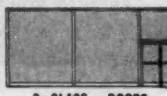
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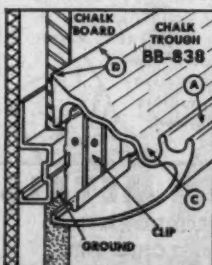
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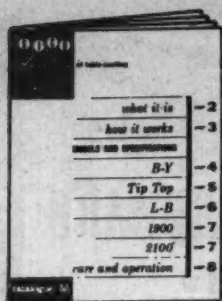
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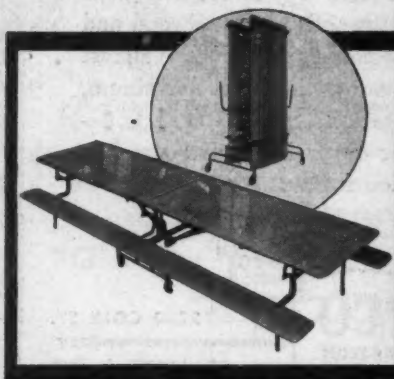
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THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 312)

URA instructed its field offices to work closely with local public agencies to get under Federal loan-and-grant contract by June 30, 1956, as many as possible of the 176 "old act" projects still in the planning stage. The loan-and-grant contracts enable local officials to start assembling and clearing project land.

For the 103 "old act" projects already engaged in site operations, the drive will be directed toward making cleared land not already disposed of available to redevelopers by the end of fiscal 1956 (next June 30).

Commissioner Follin said it was important to complete land disposition in areas that are scheduled for private redevelopment with the help of Section 220 FHA mortgages. He believes there is a pressing need for substantial operating experience with the section as a means of achieving new and rehabilitated housing in both old and new act projects.

The continued processing of projects under the 1954 law will not be hindered by the speed-up in the 1949 act program, Mr. Follin promised.

BUDOCKS MOVES TO BETTER ACTION ON ITS CONTRACTS

Navy's Bureau of Yards and Docks has been looking to its relations with private builders on BuDocks contracts.

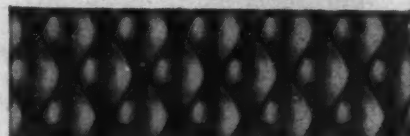
A new position of Special Assistant for Contractor Labor Relations, at district level, is described as another step aimed at "achieving more effective handling of labor matters on the Bureau's contracts, particularly labor standards enforcement." Captain V. C. Bertelsen, CEC, USNR, has the new job.

Another stab at improving contractor relations was a three-day conference, held in Washington, to emphasize the better handling of labor matters on construction contracts. This was something of an indoctrination course for BuDocks contract administrators and covered recent developments in the labor relations field.

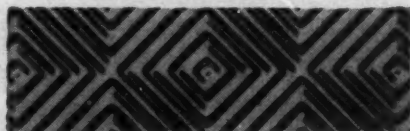
Industry participants included Richard J. Gray, president, Building and Construction Trades Department, American Federation of Labor; and William E. Dunn, labor relations manager, Associated General Contractors of America.

(Continued on page 331)

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The Marble Institute of America has issued a bulletin incorporating the warning of The A.I.A. This is available without cost.

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REQUIRED READING

(Continued from page 60)

historical background. It is, at times, confusing chronologically, but this by no means minimizes the magnitude of the scope covered, in one of the best architectural biographies this reviewer has read.

BUILT-IN FURNITURE

How to Make Built-In Furniture. By Mario dal Fabbro. F. W. Dodge Corp. (New York) 1955. 263 pp, illus. \$6.95.

This book offers step-by-step instructions for constructing 102 built-in designs by Mario dal Fabbro.

Section 1 contains specific instructions for room measurement, handling variable dimensions (such as sloping ceilings), selecting and buying woods, wood finishing hardware, installation and mounting as well as many construction details for joints, doors and the like.

Section 2 contains the built-in projects, ranging from a telephone shelf to an entire storage wall with roll-away beds, and including bookshelves, desks, room dividers, sink enclosures and radio cabinets.

This book should be of great value to the architect and to the more skilled do-it-yourself craftsmen.

PROBLEMS OF CONTEMPORARY ART

The Grass Roots of Art. By Sir Herbert Read. George Wittenborn, Inc. (38 East 57th St., New York City) 1955. 160 pp, illus. \$2.50.

This is a revised and enlarged edition of Read's lectures on the social aspects of art in the industrial age. The theme of this book is that "art is in some sense intimately related, not only to the social structure, but even to the very soil and landscape of a country."

The author analyses some of the factors which have accounted for great periods of art in the past, illustrating his argument by examples, and shows to what extent such factors are lacking in modern civilization. He then suggests the changes in social structure and motivation that would be necessary to make our industrial age more conscious of creative values. This does not mean the return to the Middle Ages or for an idealistic Utopia. The author believes that art can be reconciled with the machine, but only as a result of economic and social reforms of a kind not often contemplated by the modern politician.

(Continued on page 324)

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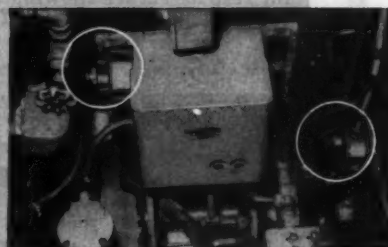
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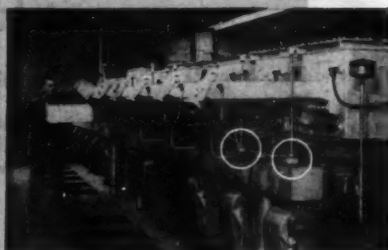
No. 5282

Circled right, Hubbell 5282 3-wire duplex outlet used on auxiliary machine equipment along with 3-wire grounding type rubber cap, No. 5276. Also note use of Twist Lock No. 7417 and 7411 on machine at left



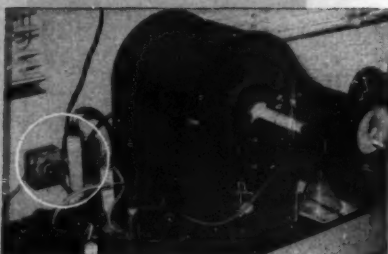
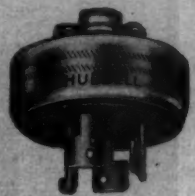
No. 7517

At right, main furnace room at the Adamas plant showing rugged Hubbell Twist Lock units (7517 receptacle and 7311 cap) used in connection with the furnace controls.



No. 7411

Twist Lock units like the 4-wire No. 7411 cap provide a secure, vibration proof and pull proof connection used on test equipment in the Adamas laboratory. Illustration shows 7411 and 7410 receptacle in use.



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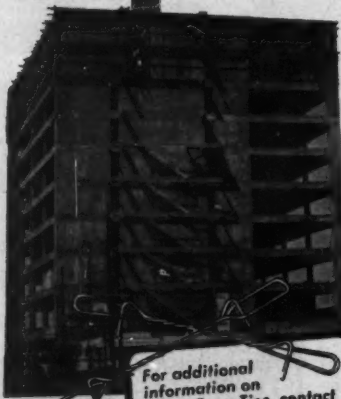
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A Treasury of Contemporary Houses

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There is nothing superficial or sketchy about this book. Each house is fully depicted in about 10 interior and exterior photographs, and is complete with floor and plot plans, with some design details. There are over 600 illustrations in all. If you are looking for new ideas in space utilization, floor layouts, room division, interior finishing treatments, exterior innovations, solar orientation, built-ins, window and doorway styling, and landscaping, then this book is a must for you. 215 pages, 8 1/4 x 11 1/4, \$5.95

Architectural Engineering: New Concepts, New Methods, New Materials, New Applications

by the editors of
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Nine years of new findings and developments in architectural engineering have been examined in selecting the 100 studies that this new book contains. Each technical study included was chosen for being a detailed, up-to-date source of specific information for which there is great current professional demand. Each study is graphically complete with plans, diagrams, illustrations and photographs—over 1,500 in all.

The book is composed of six extensive sections: THE BUILDING SHELL (Structural frame, Walls, Roofs, Floors, Prefabrication), ENVIRONMENTAL CONTROL (Panel heating and cooling, Air conditioning, New devices and systems, Thermal insulation and condensation, Lighting, Acous-

tics), UTILITIES (Electrical systems, Vertical transportation, Materials handling), SITE PLANNING (Drainage, Soils, Foundations, Roads and parking), MATERIALS (Concrete, Lightweight aggregates, Wood, Wood protection, Glass, Plastics, Flooring), SPECIAL PROBLEMS (Structural safety, Fire and explosion protection, Planning for atomic energy).

Here are simplified cost-cutting methods, new uses for old and new materials, new structural systems and new mechanical and electrical equipment. Includes explorations into many newly developed areas such as Residential heat pumps, Concrete prefabrication, Residential solar heating, Lightweight aggregates, Structural plywood, Plastics for buildings and Atomic blast-resistant buildings. 495 pages, 8 3/4 x 11 1/4, \$11.50

Time-Saver Standards, Revised 3rd Edition

by the editors of
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Here is a completely revised, up-to-date edition of the essential handbook of architecture and building.

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How to Make Built-in Furniture

by MARIO dal FABBRO

Step-by-step instructions for constructing 102 contemporary built-ins by a famous furniture designer.

Here are amazingly clear plans and instructions that any craftsman can follow. Written by an international award-winning designer, this book presents unique sequence plans and illustrations that eliminate many errors and miscalculations. There are over 500 detailed plans and diagrams.

Space-saving, efficient built-ins play such an important part in the livability and salability of today's house that no architect or builder can afford to overlook their possibilities. This new book includes designs for bookcases, storage cabinets and shelves, book shelves and cabinets for sloping ceilings, cabinet-desks and bookcase-desks, corner cabinets and shelves, wall-to-wall cabinets and shelves, breakfast and game corners, service bars, headboard units, double-decker beds, tables, benches, work counters, kitchen cabinets, sink enclosures and kitchen counters. Most of the pieces include special information on adapting them to fit any room or usable space, so that hundreds of variations can be made from these unusual plans. 259 pages, 7 1/4 x 9 1/4, \$6.95

How to Build Modern Furniture

by MARIO dal FABBRO

This two-volume set is ideal for the architect, builder, designer or decorator who is alert for sparkling new ideas in smart, modern furniture. In addition, it is a valuable working tool for the home craftsman.

Volume 1 concerns itself with practical construction methods in all their phases, from simplest board joints to skilled upholstery work. Includes techniques for wood joining, finishing, hardware installation, assembly of doors, legs, drawers, and uses of glass, metal, rubber, plastic and marble in furniture construction.

Volume 2 presents complete plans for many furniture projects, including tables, chairs, beds, divans, cabinets and desks. There are 65 pieces in all which can be made from the detailed plans in this set. Over 1,500 illustrations, 292 pages, 8 1/4 x 11, \$9.50 complete set, either volume alone \$6.00

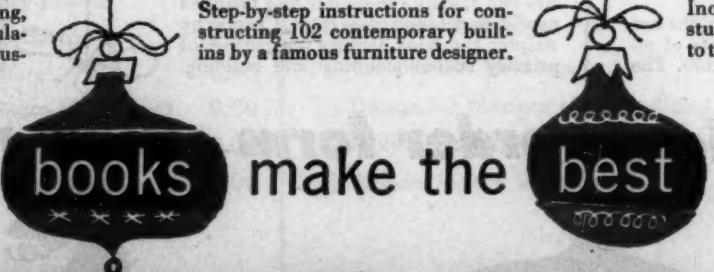
Toward Better School Design

by WILLIAM W. CAUDILL

Written by one of America's foremost school architects and school planning consultants, this new book is a brilliant contribution to common sense and clear thinking in its field.

Building costs, the big stumbling-block in nearly all school projects, are thoroughly analyzed from the foundation up. Granting that good schools cost money, the author shows why they often cost too much money. There's a fortune in sound ideas to be found here, among them: how to establish strict cost controls, how to save on the building shell, what plan-forms cost the least, how to double-up on spaces, why "cheap" materials are often more expensive in the long run, how to cut expense by using large structural units and modern assembly line construction methods, where to eliminate waste space. In these and hundreds of other ways Mr. Caudill shows where and how to economize.

In addition to his own creative thinking, the author has drawn from the ideas and works of scores of leading architects and educators. Incorporated with the text are 91 case studies, ranging from the design of an easel to the planning of an entire school system,



Good books make the best gifts

where adherence to common-sense principles has resulted in better and more economical schools. 288 pages, 8 3/4 x 11 1/4, \$12.75

82 Distinctive Houses

selected from
Architectural Record

This extensive collection of houses is a splendid book for any architect, designer or builder to own or to give. Present and prospective homeowners will welcome it as a refreshing source of ideas.

These houses represent all regions of the United States, many climates, and a wide range of personal tastes and living habits. Each one is shown in superb photographs, scaled drawings and plans, and many structural features. A brief commentary explains the story behind each house. A special Time-Saver Standards for Houses section of 100 pages is also included. 437 pages, 8 3/4 x 11 1/4, \$8.00

Finnish Architecture and Alvar Aalto

by EDUARD and
CLAUDIA NEUENSCHWANDER

An important graphic survey of the work of Finland's most outstanding architect during his most productive period. From 1950 to 1952 Aalto had the unique experience of seeing his major projects (over 30 of them) progress immediately from plans to construction. Despite this prodigious output, plans and illustrations of Aalto's work are extremely rare. This book was possible only because Eduard Neuenschwander, who worked with Aalto at that time, succeeded in acquiring and preserving much original material from destruction.

In two major sections the book first explores Finnish architecture from 1764 to 1950 and then goes on to cover Aalto's work in 1950 and 1951—projects of many varied types. Superbly illustrated, 192 pages, 7 x 10 3/4, \$9.00

Architectural Photography of Houses

by ROBERT C. CLEVELAND

A noted architectural photographer tells how to take good pictures of exteriors and interiors. He reveals hundreds of professional pointers and includes 325 excellent examples of his own work. Includes skilled techniques not known by most photographers. Perfect for the professional and advanced amateur. 170 pages, 8 3/4 x 11 1/4, \$7.50

New Design in Exhibitions

by RICHARD P. LOHSE

Here is the first comprehensive book on modern exhibition design and architecture, an international cross-section of classics in this field. Superbly illustrated, this unique volume draws upon the finest work done in the past 20 years by architects and designers throughout the world.

The introduction describes techniques, themes and form as well as the achievements of pioneers in the field from 1851 to 1930. The

major portion illustrates national, industrial, small manufacturing, scientific, cultural, social and political exhibitions of many types—75 in all. Over 600 photographs, plans and structural diagrams describe these outstanding examples. 260 pages, 9 1/2 x 11, \$13.50

Practical Houses for Contemporary Living

by JEAN and DON GRAF

This book presents what might be called forty success stories in home planning, selected not because they are expensive show places but simply because they completely fulfill the living requirements of their owners. Like a good suit of clothes, they fit well, feel comfortable, and have a distinctive appearance. Price-wise they range from \$7500 upward. The presentation of each house includes photographs, floor plans of uniform scale, and brief text pointing up useful ideas adaptable to the reader's particular needs. 174 pages, 8 3/4 x 11 1/4, \$6.95

Landscape for Living

by GARRETT ECKBO

Planned with great insight, this volume examines the purposes, problems and practices of landscape design, and recommends specific ways to achieve both beauty and utility in layout of plantings and materials.

Mr. Eckbo traces the history of landscape design and outlines proven principles of outdoor layout. Entire sections are devoted to materials, plants and planting, site conditions, structural factors, gardens, public buildings, and group housing. Included are photographs, renderings and line diagrams of various landscaping projects. 288 pages, 8 x 10 3/4, \$10.00

Planning and Building the Modern Church

by WILLIAM WARD WATKIN

In this important work the architect, clergyman and layman are taken, step-by-step, through every phase of building a new church. Nothing is omitted: that important first talk between architect and church building committee, the preliminary examinations of sites, discussion of neighborhood characteristics and expansion needs, the selection of construction materials, the designing of the chancel, planning the church school, construction methods, selection of mechanical and electrical equipment and furnishings. 90 illustrations, 166 pages, 8 3/4 x 11 1/4, \$8.50

Planning Elementary School Buildings

by N. L. ENGELHARDT, SR.,
N. L. ENGELHARDT, JR.,
STANTON LEGGETT

Three prominent educational consultants trace the pattern of daily teacher-pupil activities and specify the shelter and facilities needed to accommodate them. Chapter by chapter the book follows the course of primary school planning and building.

First comes the survey of community needs; selection of the site; layout, size, shape and orientation of classrooms, cafeteria, library, auditorium, gymnasium, administrative offices, custodial and storage spaces, and all other elements of the building. Charts of typical activities and required equipment provide convenient check-lists. 250 illustrations, 268 pages, 8 3/4 x 11 1/4, \$12.50

School Planning

by the editors of
Architectural Record

This large book offers a series of case histories of school design by thoroughly examining and discussing a cross-section of the best schools built in recent years. Representing the work of hundreds of architects and educators, the book covers such topics as Cost analyses, Structural design, Site selection, Plot layout, Equipment selection and installation, Materials, and many others. Over 1,000 illustrations, 456 pages, 8 3/4 x 11 1/4, \$8.00

Marcel Breuer: Architect and Designer

by PETER BLAKE

A fascinating, pictorial work tracing Breuer's life and works from his initial contributions to architecture at the Bauhaus School to the present time. Considerable space is devoted to the Bauhaus experiment under Walter Gropius, which has produced so many telling changes in contemporary architecture. The illustrations alone are worth the book's modest price. 128 pages, 8 1/2 x 10 1/4, \$4.00

The Northwest Architecture of Pietro Belluschi

edited by JO STUBBLEBINE

Collected for the first time are selections from the writings and works of Belluschi. Here is a vivid portrait of the warmth, informality and forthright honesty which has resulted in a major contribution to American architecture. Fully two-thirds of the book are devoted to superb photographs which bear witness to Belluschi's integrity, his intuition for the appropriate, his rare ability to express in wood and stone the rugged character of the Pacific Northwest and the admirable individuality of its people. 112 pages, 8 x 10 3/4, \$6.50

Design and Construction of General Hospitals

by the U. S. Public Health Service

Presented in these pages are the results of ten years of arduous research by specialists of the U. S. P. H. S. Their one purpose was to correlate design with the new techniques of diagnosis, surgery, and physical and mental therapy developed by modern medicine over the past decade. Taking part in this great project were architects, engineers, physicians, surgeons, nurses, dieticians, and hospital officials, all of whom have contributed their specialized knowledge and experience.

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The volume includes 30 master plans for hospitals from 20-bed to 400-bed size; discussion of the multiple problems of planning in terms of design, equipment and facilities for all departments; detailed plans for the various elements of the hospital classified by size of building and listing complete furnishings; and complete equipment and supply lists for hospitals of 50, 100 and 200-bed capacity. 206 pages, 8½ x 11½, \$12.00

Planning Stores that Pay

by DR. LOUIS PARNES

A detailed study of every phase of successful store design covering general layout, department layouts, shipping and receiving facilities, entrances, facades, windows, fixtures, customer circulation. Diagrams, charts and scale drawings from hundreds of leading stores prove each point graphically.

Point-by-point Dr. Parnes illustrates the right and wrong of store design, and includes over 500 illustrations in support of his pertinent text. Valuable both for new stores and remodeling jobs. 300 pages, 8½ x 11, \$10.00

Industrial Buildings

by the editors of
Architectural Record

This large book contains 116 completely detailed studies of America's most efficient industrial buildings, selected from a full 10-year period of expansion. Projects include: Powerhouses, Manufacturing plants, Warehouses, Laboratories, Research centers and many other types. Also treated are such special problems as Factory toilets and locker rooms, Cafeterias, Loading docks, Industrial lighting, Thermal expansion, Color systems

for factories, Unit heaters for industrial plants, Steel framing details and scores of others. Over 1,500 illustrations, 546 pages, 8½ x 11½, \$9.00

Commercial Buildings:

Office Buildings, Banks, Transportation Buildings, Radio and TV Buildings, Theaters

by the editors of
Architectural Record

This recent work is a vivid pictorial record of the postwar revolution in commercial building design, and includes 127 of the best buildings erected during the past decade. These projects clearly demonstrate the new design themes, the novel materials and structural methods, which have won wide acceptance in recent years. Complete with photographs, floor plans, structural features and details. 406 pages, 8½ x 11½, \$9.75

Design for Modern Merchandising:

Stores, Shopping Centers, Showrooms

by the editors of
Architectural Record

For the first time in one volume here is a detailed study of the physical design of selling establishments of all types. You will find stores for soft goods and hard goods, food stores,

department stores, wholesale showrooms, and that offspring of a booming suburban market, the shopping center.

Over 600 photographs, plans and diagrams take the reader through a vivid selection of successful selling establishments where good design has paid off in heavy traffic and comfortable, satisfied customers. Anyone about to undertake new construction or renovation of a merchandising building will find this volume an endless, fascinating source of useful ideas. 247 pages, 8½ x 11½, \$8.95

Motels, Hotels, Restaurants and Bars

by the editors of
Architectural Record

Here is a carefully chosen presentation of case studies on these building types. Emphasis is on current design trends, techniques and structural features. Within each category, buildings of many sizes, styles and localities are included.

This informative work graphically shows the delicate relationship between good design and good business with 518 illustrations and a lucid text that is refreshing to find in an involved, technical field. 215 pages, 8½ x 11½, \$6.95

Schools for the Very Young

by H. H. and E. WAECHTER

A pioneering work exploring an often-neglected area of school planning. Relates pre-school activity to space arrangement, facilities, indoor and outdoor play areas and special equipment. 208 pages, 7½ x 10, \$6.50

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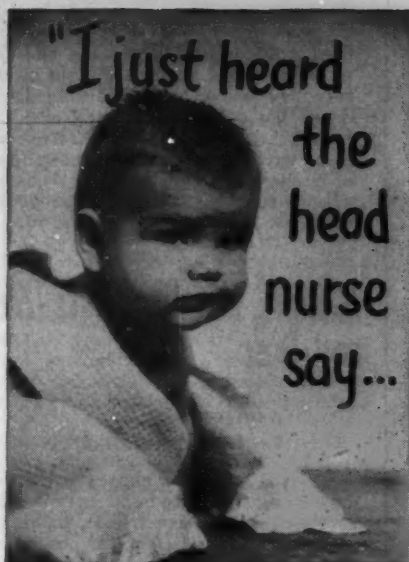
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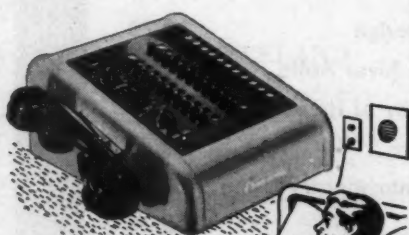
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REQUIRED READING

(Continued from page 319)

OTHER BOOKS OF INTEREST

Gardens Are For People. By Thomas D. Church. Reinhold (New York) 1955. 248 pp, illus. \$10.00.

Excellent illustrations, many in full color, make this a valuable book on landscape architecture.

English Country Houses: Early Georgian, 1715-1760. By Christopher Hussey. Country Life Ltd. (London, England), 1955. 256 pp, illus., 6 guineas net. (American Distributor: Essential Books, Inc., 16-00 Pollitt Dr., Fair Lawn, N. J.)

This volume initiates a new series on *Country Homes*, originally compiled by the late H. Avray Tipping. The purpose of the series will be to narrate the development and provide a fully illustrated record of greater country houses in England.

Plastics and Building. By E. F. Mactaggart and H. H. Chambers. Philosophical Library. (New York) 1955. 181 pp, illus. \$12.00.

An account of the chemistry, manufacture and uses of plastics, with emphasis on their application in the building and allied industries.

Buildings of Tomorrow. By Fern M. Colborn. Wm. Morrow & Co., Inc. (New York) 1955. 159 pp, illus.

A guide for planning settlements and community buildings.

Constructional Steelwork. By Oscar Faber. Philosophical Library (New York) 1955.

An explanation of principles underlying the design and construction of steel frame buildings and other examples of steel structures.

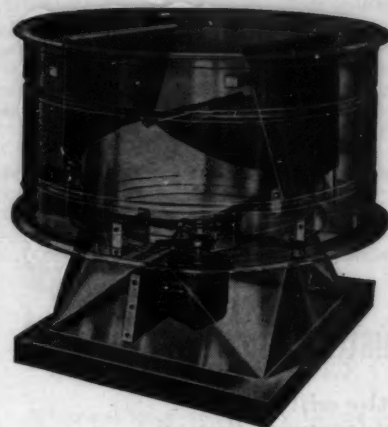
The New Architecture and the Bauhaus. By Walter Gropius. Branford Co. (Boston) 1955. 112 pp, illus. \$3.50.

A new edition of this important book on the modern movement.

Fifty Modern Bungalows. Edited by Felix Walter. Architectural Press (9-13 Queen Annes Gates, S.W. 1, London) 1955. 112 pp, illus. 18s. 6d. net.

This book, showing fifty single-storey houses—not all of them too modern, is directed at the layman desirous of planning and building his own home. According to the publisher the purpose of this book is "to show the reader how to achieve the kind of home that will satisfy his particular needs, that will make for more gracious, more healthy and less arduous living, that will suit his pocket and cost little to maintain."

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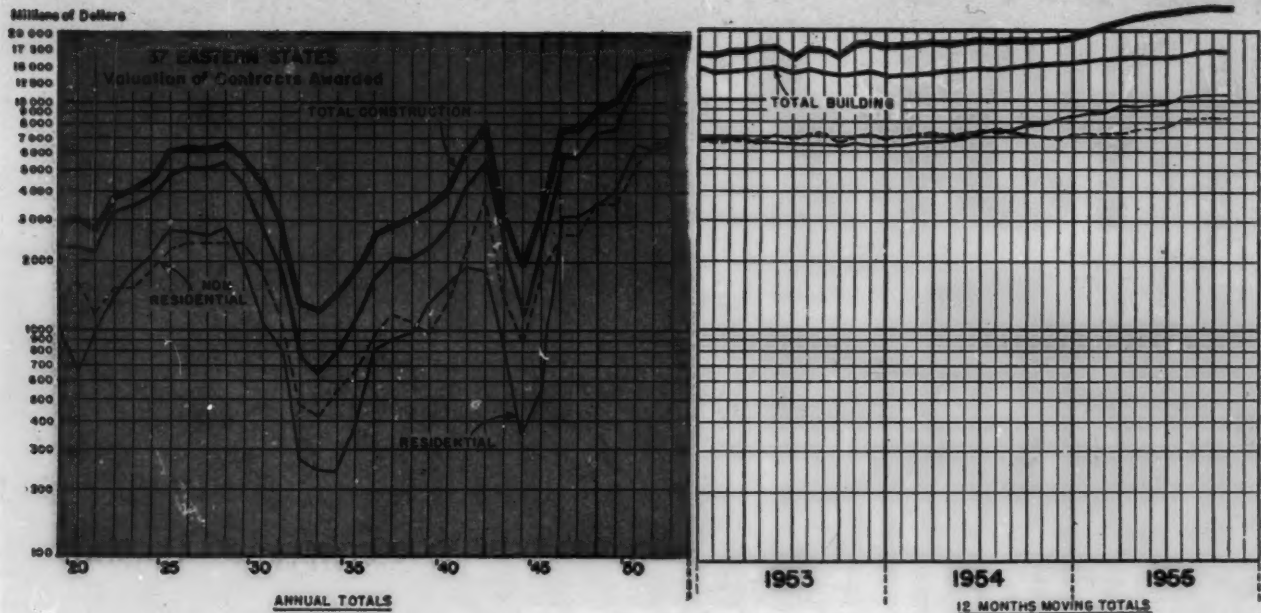
*Aluminum Company of America, Cincinnati sales office. Paul Schell, architect, Pittsburgh; Martin C. Knabe, structural engineer, Pittsburgh; Theo. E. Rockwell, mechanical engineer, Pittsburgh; Henry Niemes & Co., Inc., mechanical contractor, Cincinnati.

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THE RECORD REPORTS: CURRENT TRENDS IN CONSTRUCTION

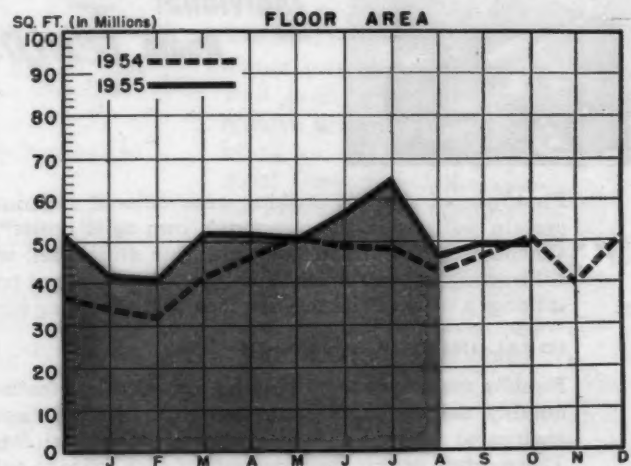


MONTHLY TOTAL DIPS, YEAR REACHES HIGH

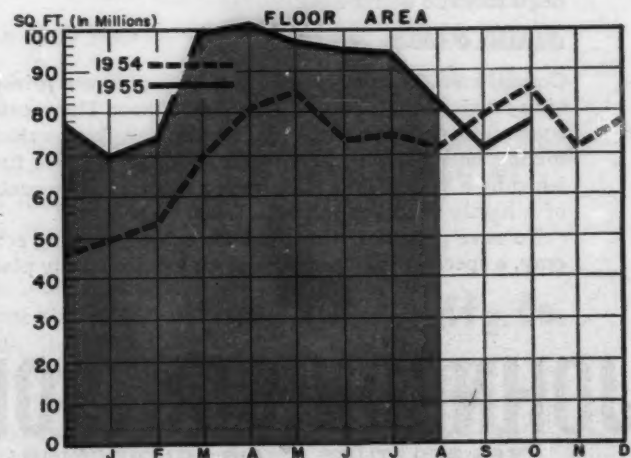
For the first time in 17 months, the monthly total of construction contract awards in the 37 states east of the Rockies as reported by F. W. Dodge Corporation in October showed a drop from the corresponding month of the preceding year; at \$1,862,692,000, the total was five per cent below October 1954 (and eight per cent below the September 1955 level). The cumulative total for the first ten months of 1955, however, was 22 per cent above the comparable 1954 period; at \$20,027,736,000, it was not only the highest ten-month period on record, but exceeded the total for any previous full year. The October figures showed a drop in the residential classification for the second consecutive month; the total of \$782,791,000 was eight per cent below the October 1954 level. Nonresidential construction awards of \$691,988,000 bettered the 1954 month by three per cent, but the heavy engineering category, at \$387,913,000, fell 12 per cent below October a year ago. For ten months: nonresidential \$8,748,341,000, up 24 per cent; residential \$8,748,341,000, up 24 per cent; heavy engineering \$4,171,999,000, up 20 per cent.

Charts by Dodge Statistical Research Service

NONRESIDENTIAL BUILDING (37 EASTERN STATES)



RESIDENTIAL BUILDING (37 EASTERN STATES)



CHURCHES*

Source: F. W. Dodge Corporation
Contracts Awarded—37 Eastern States
Floor Area (thousands of sq ft)

Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
1929	11291	941	1949	21369	1781
1935	2863	239	1950	24910	2076
1941	7386	616	1951	21973	1831
1944	1295	108	1952	17971	1498
1946	6889	574	1953	20758	1730

Monthly Totals

1954			1955				
Jan.	1339	July	2969	Jan.	1683	July	2852
Feb.	1466	Aug.	2991	Feb.	1709	Aug.	2507
Mar.	1925	Sept.	2561	Mar.	2464	Sept.	2577
Apr.	2474	Oct.	2479	Apr.	2411	Oct.	2202
May	3039	Nov.	2362	May	2516		
June	2566	Dec.	1983	June	2982		

12-months total... 28,154

10-months total... 23,903

*Churches are the subject of Building Types Study No. 229, pages 161-192

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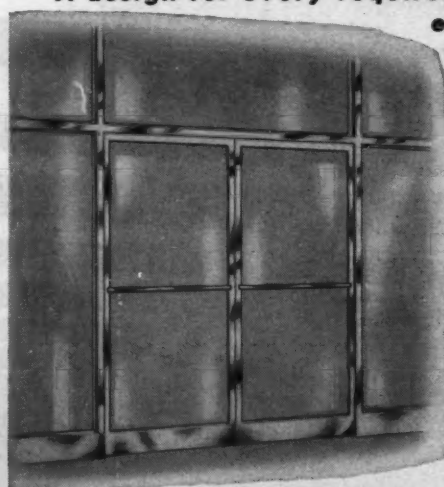
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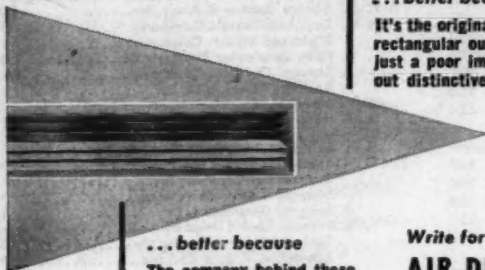
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ADDENDA

The Office of Education reports that Congress, in the last five fiscal years, appropriated \$609 million to aid states in construction of schools in areas affected by defense activity. This money, with approximately \$255 million contributed in local funds, is financing about 3000 school buildings in 1350 districts. These facilities house around 800,000 pupils. Applications for this type of Federal aid are authorized through the current fiscal year ending next June 30. Eligibility is determined by the increased school attendance count attributable to Federal activity in a given community.

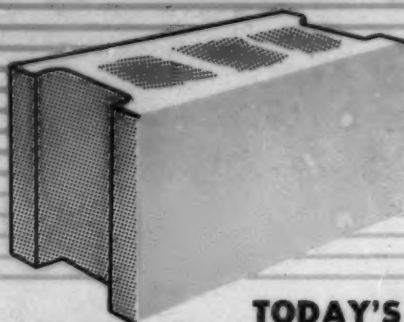
The Federal National Mortgage Association ("Fannie Mae") in October temporarily suspended further sales from its \$2.5 billion management and liquidation home mortgage portfolio. The sales were withheld pending a survey of the secondary mortgage money market.

The three largest veterans' organizations were on record this fall as favoring continuation by Congress of the GI home loan guaranty program beyond its July 1957 expiration. Amvets wants the Veterans Administration program extended for three years; the American Legion urged Congress to renew it for at least three years, and the Veterans of Foreign Wars approved extension in principle, leaving the period of continuance to be set later. There were indications Congress would consider the matter at its next session. The Disabled American Veterans said they favored merging VA's home loan guaranty program with the activities of the Federal Housing Administration.

The paint and varnish industry has been told that it is missing a large share of the consumer's dollar by failing to offer an installment credit sales plan for paint and painting. Joseph F. Battley, president of the National Paint, Varnish, and Lacquer Association, told that organization's recent convention in Washington, D. C., that this industry, by its negligence, has missed out on one of the most important fields of merchandising. Two of the association's committees are at work on an industry approach and a sub-committee is preparing a plan to help credit selling by dealers and contractors.

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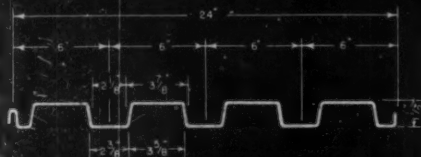
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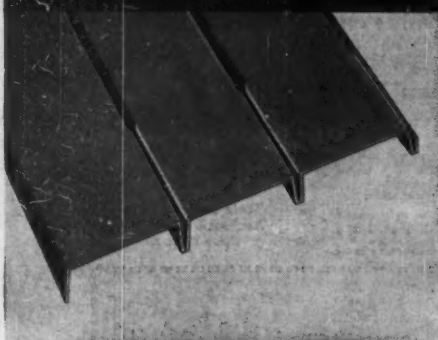
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